Kerr-McGee #12 Santa Fe
NW SE 22-20N-27E Apache County 414

P-W

[redacted]

CONFIDENTIAL
Release Date 12-2-67

COUNTY Apahce AREA 5 mi E. Navajo LEASE NO. Santa Fe Fee

WELL NAME Kerr-McGee #12 Santa Fe (Strat Test)

LOCATION NW SE SEC 22 TWP 20N RANGE 27E FOOTAGE 1980' FSL & 1980' FEL

ELEV 5737 GR _____ KB SPUD DATE 5-29-67 STATUS _____ COMP. DATE 6-2-67 TOTAL DEPTH 1283'

CONTRACTOR Company Tools

CASING SIZE	DEPTH	CEMENT	LINER SIZE & DEPTH
7"	255'	9 Sks	NA

DRILLED BY ROTARY x
DRILLED BY CABLE TOOL _____
PRODUCTIVE RESERVOIR _____
INITIAL PRODUCTION Dry

FORMATION TOPS	DEPTHS	SOURCE L.L.	SOURCE E.L.	REMARKS
Dunes	Surface		x	
Chinle	255'			
~~Porosity~~	~~1030'~~			
Coconino	1248'			

ELECTRIC LOGS	PERFORATED INTERVALS	PROD. INTERVALS
IE, Borehole Comp.Sonic		

SAMPLE LOG _____
SAMPLE DESCRP. _____
SAMPLE NO. _____
CORE ANALYSIS _____
DSTs _____

REMARKS _____

APP. TO PLUG x
PLUGGING REP. x
COMP. REPORT x

WATER WELL ACCEPTED BY _____

BOND CO. Firemens' Ins. Co. BOND NO. 188 98 10-528

BOND AMT. $ 25,000 CANCELLED _____ DATE ORGANIZATION REPORT 7-14-60

FILING RECEIPT 9506 LOC. PLAT x WELL BOOK x PLAT BOOK x

API NO. 02-001-20038 DATE ISSUED 5-29-67 DEDICATION All

PERMIT NUMBER 414

CONFIDENTIAL

Release Date 12-6-67

(over)

10

WELL COMPLETION OR RECOMPLETION REPORT AND WELL LOG

DESIGNATE TYPE OF COMPLETION:

New Well ☐ Work-Over ☐ Deepen ☐ Plug Back ☐ Same Reservoir ☐ Different Reservoir ☐ Oil ☐ Gas ☐ Dry ☒

DESCRIPTION OF WELL AND LEASE

Operator	Address
Kerr-McGee Corporation	Kerr-McGee Building, Okla. City, Okla.

Federal, State or Indian Lease Number or name of lessor if fee lease	Well Number	Field & Reservoir
Santa Fe	12	Wildcat

Location	County
1980' FSL, 1980' FEL	Apache

Sec. TWP-Range or Block & Survey: Sec. 22-20N-27E

Date spudded	Date total depth reached	Date completed, ready to produce	Elevation (DF, RKB, RT or Gr.) — feet	Elevation of casing hd. flange — feet
5-29-67	6-2-67		5737	

Total depth	P.B.T.D.	Single, dual or triple completion?	If this is a dual or triple completion, furnish separate report for each completion.
1282			

Producing interval (s) for this completion	Rotary tools used (interval)	Cable tools used (interval)
	0-1282	

Was this well directionally drilled?	Was directional survey made?	Was copy of directional survey filed?	Date filed
No	No		

Type of electrical or other logs run (check logs filed with the commission)	Date filed
Induction - Sonic	

CASING RECORD

Casing (report all strings set in well—conductor, surface, intermediate, producing, etc.)

Purpose	Size hole drilled	Size casing set	Weight (lb./ft.)	Depth set	Sacks cement	Amt. pulled
Surface	9-5/8	7"	20#	255	9	None

TUBING RECORD

Size	Depth set	Packer set at
in.	ft.	ft.

LINER RECORD

Size	Top	Bottom	Sacks cement	Screen (ft.)
in.	ft.	ft.		

PERFORATION RECORD

Number per ft.	Size & type	Depth Interval

ACID, SHOT, FRACTURE, CEMENT SQUEEZE RECORD

Am't. & kind of material used	Depth Interval

INITIAL PRODUCTION

Date of first production	Producing method (indicate if flowing, gas lift or pumping—if pumping, show size & type of pump:)

Date of test	Hrs. tested	Choke size	Oil prod. during test	Gas prod. during test	Water prod. during test	Oil gravity
			bbls.	MCF	bbls.	° API (Corr)

Tubing pressure	Casing pressure	Cal'ted rate of Production per 24 hrs.	Oil	Gas	Water	Gas—oil ratio
			bbls.	MCF	bbls.	

Disposition of gas (state whether vented, used for fuel or sold):

CERTIFICATE: I, the undersigned, under the penalty of perjury, state that I am the Geologist of the Kerr-McGee Corporation (company), and that I am authorized by said company to make this report; and that this report was prepared under my supervision and direction and that the facts stated therein are true, correct and complete to the best of my knowledge.

July 10, 1967
Date

Signature

CONFIDENTIAL

Release Date 12-2-67

Permit No. 414

STATE OF ARIZONA
OIL & GAS CONSERVATION COMMISSION
Well Completion or Recompletion Report and Well Log
File One Copy
Form No. 4

RECEIVED JUL 12 1967 STATE OF ARIZONA OIL & GAS CONS. COMM.

(Complete Reverse Side)

DETAIL OF FORMATIONS PENETRATED

Formation	Top	Bottom	Description*
Dune	0	255	Sd
Chinle	255		Sd & sh
Porosity	1030	1110	Sd
Coconino	1248		Sd

* Show all important zones of porosity, detail of all cores, and all drill-stem tests, including depth interval tested, cushion used, time tool open, flowing and shut-in pressures, and recoveries.

INSTRUCTIONS:

Attach drillers log or other acceptable log of well.

This Well Completion or Recompletion report and well log shall be filed with the State of Arizona Oil & Gas Conservation Commission not later than thirty days after project completion.

Form No. 4

PLUGGING RECORD

Operator: Kerr-McGee Corporation	Address: Kerr-McGee Building, Oklahoma City, Okla.
Federal, State, or Indian Lease Number, or lessor's name if fee lease: Santa Fe	Well No.: 12
Field & Reservoir: Wildcat	
Location of Well: 1980' FSL, 1980' FEL	Sec.-Twp-Rge or Block & Survey: Sec. 22-20N-27E
County: Apache	
Application to drill this well was filed in name of: Kerr-McGee Corporation	Has this well ever produced oil or gas: No
Character of well at completion (Initial production): Oil (bbls/day)	Gas (MCF/day)
Dry? X	
Date plugged: 6-2-67	Total depth: 1282
Amount well producing when plugged: Oil (bbls/day)	Gas (MCF/day)
Water (bbls/day)	

Name of each formation containing oil or gas. Indicate which formation open to wellbore at time of plugging	Fluid content of each formation	Depth interval of each formation	Size, kind & depth of plugs used Indicate zones squeeze cemented, giving amount cement
			0-15 w/2 sks.
			230-375 w/18 sks
			1005-1120 w/14 sks
			1140-1175 w/8 sks
			1220-1283 w/8 sks

CASING RECORD

Size pipe	Put in well (ft.)	Pulled out (ft.)	Left in well (ft.)	Give depth and method of parting casing (shot, ripped, etc.)	Packers and shoes
7"	255	0	255		

Was well filled with mud-laden fluid, according to regulations? Yes

Indicate deepest formation containing fresh water.

NAMES AND ADDRESSES OF ADJACENT LEASE OPERATORS OR OWNERS OF THE SURFACE

Name	Address	Direction from this well:
Kerr-McGee Corporation	Oklahoma City, Oklahoma	

In addition to other information required on this form, if this well was plugged back for use as a fresh water well, give all pertinent details of plugging operations to base of fresh water sand, perforated interval to fresh water sand, name and address of surface owner, and attach letter from surface owner authorizing completion of this well as a water well and agreeing to assume full liability for any subsequent plugging which might be required.

Use reverse side for additional detail.

CERTIFICATE: I, the undersigned, under the penalty of perjury, state that I am the Geologist of the Kerr-McGee Corporation (company) and that I am authorized by said company to make this report; and that this report was prepared under my supervision and direction and that the facts stated therein are true, correct and complete to the best of my knowledge.

6-28-67
Date

Signature

CONFIDENTIAL

Release Date .....

Permit No. 414

STATE OF ARIZONA
OIL & GAS CONSERVATION COMMISSION
Plugging Record
File One Copy

Form No. 10

RECEIVED JUL 3 1967 STATE O & G COND. COMM.

RECEIVED JUL 3 1967 STATE O & G COMS. COMM.

APPLICATION TO ABANDON AND PLUG

FIELD Wildcat

OPERATOR Kerr-McGee Corporation ADDRESS Oklahoma City, Oklahoma

Federal, State, or Indian Lease Number or Lessor's Name if Fee Lease Santa Fe WELL NO. 12

SURVEY 20N-27E SECTION 22 COUNTY Apache

LOCATION 1980' FS & EL

TYPE OF WELL Strat Test (Oil, Gas or Dry Hole) TOTAL DEPTH 1282

ALLOWABLE (If Assigned)

LAST PRODUCTION TEST OIL (Bbls.) WATER (Bbls.)

GAS (MCF) DATE OF TEST

PRODUCING HORIZON PRODUCING FROM TO

1. COMPLETE CASING RECORD
7" at 255'

2. FULL DETAILS OF PROPOSED PLAN OF WORK leave casing in hole -
plug 0-15, 230-375, 1005-1120, 1140-1175, 1220-1283

If well is to be abandoned, does proposed work conform with requirements of Rule 202? Yes If not, outline proposed procedure above.

DATE COMMENCING OPERATIONS 6-2-67

NAME OF PERSON DOING WORK Kerr-McGee ADDRESS Okla. City, Okla.

CORRESPONDENCE SHOULD BE SENT TO John C. Meyer
Name
Geologist
Title
710 Kerr-McGee Bldg., Okla. City, Okla.
Address
June 28, 1967
Date

Date Approved

STATE OF ARIZONA
OIL & GAS CONSERVATION COMMISSION

By:

STATE OF ARIZONA
OIL & GAS CONSERVATION COMMISSION
Application to Abandon and Plug
File Two Copies
Form No. 2

RECEIVED JUL 13 1967 STATE O & G CONS. COMM.

RECEIVED JUL 6 1967 STATE O & G CONS. COMM.

Permit No. 414

CONFIDENTIAL

Release Date

6-2-67

Telcon w/Norman Schoenhols, Kerr-McGee

Re: Kerr-McGee #5 Santa Fe (Strat Test)

Requests to plug

Surface casing to 580'.
Plugs "
Surface to 15'

555' to 605' (to encompass bottom of casing

All sands encountered were below 888'. Therefore plug
875' to 1205' T.D.

Re: Kerr-McGee 12 Santa Fe (strat test)

Surface casing set to 255'.

Plugs:

Surface to 15'
230' - 375' (to encompass bottom of casing.
Water sands 285' - 310'
330' - 350'
Water sands 1030' - 1108'
1005' - 1108'
Water sands 1152'-1165'
1140-1175
Sands 1248 to 1283' T.D.
1220 to 1283.

Rig from #12 will move to #11.
Rig on #5 will take a couple of days off; then undecided
as to which hole.

APPLICATION FOR PERMIT TO DRILL OR RE-ENTER

APPLICATION TO DRILL ☒ RE-ENTER OLD WELL ☐

KERR-McGEE CORP
NAME OF COMPANY OR OPERATOR

710 KERR-McGEE BLDG, OKLA CITY — OKLA
Address — City — State

KERR-McGEE
Drilling Contractor

KERR-McGEE BLDG, OKLA CITY, OKLA
Address

DESCRIPTION OF WELL AND LEASE

Federal, State or Indian Lease Number, or if fee lease, name of lessor	Well number	Elevation (ground)
SANTA FE	STRAT TEST #12	5750

Nearest distance from proposed location to property or lease line:	Distance from proposed location to nearest drilling, completed or applied—for well on the same lease:
1980 feet	feet
Number of acres in lease: 640	Number of wells on lease, including this well, completed in or drilling to this reservoir:

If lease, purchased with one or more wells drilled, from whom purchased: Name — Address

Well location (give footage from section lines)	Section—township—range or block and survey	Dedication (Comply with Rule 105)
1980 FSL, 1980 FEL	22 - 20N - 27E	640

Field and reservoir (if wildcat, so state)	County
MINERAL STRAT TEST	APACHE

Distance, in miles, and direction from nearest town or post office
5 MI E NAVASO, ARIZ

Proposed depth:	Rotary or cable tools	Approx. date work will start
1350	ROTARY	6-1-67
Bond Status ON FILE Amount	Organization Report On file ✓ Or attached	Filing Fee of $25.00 Attached TO BE MAILED

Remarks:
MINERAL STRAT TEST
TO DRILL 5⅛" HOLE FROM SURFACE CASING TO TD

CERTIFICATE: I, the undersigned, under the penalty of perjury, state that I am the GEOLOGIST of the KERR-McGEE CORP (company), and that I am authorized by said company to make this report; and that this report was prepared under my supervision and direction and that the facts stated therein are true, correct and complete to the best of my knowledge.

Signature [signature]

Date 5-19-67

Permit Number: 414
Approval Date: 5-29-67
Approved By: John Bannister

Notice: Before sending in this form be sure that you have given all information requested. Much unnecessary correspondence will thus be avoided.

STATE OF ARIZONA
OIL & GAS CONSERVATION COMMISSION
Application to Drill or Re-Enter
File Two Copies

Form No. 3

RECEIVED
MAY 22 1967
STATE O & G CONS. COMM.

(Complete Reverse Side)

1. Operator shall outline the dedicated acreage for *both* oil and gas wells on the plat.

2. A registered professional engineer or land surveyor registered in the State of Arizona or approved by the Commission shall show on the plat the location of the well and certify this information in the space provided.

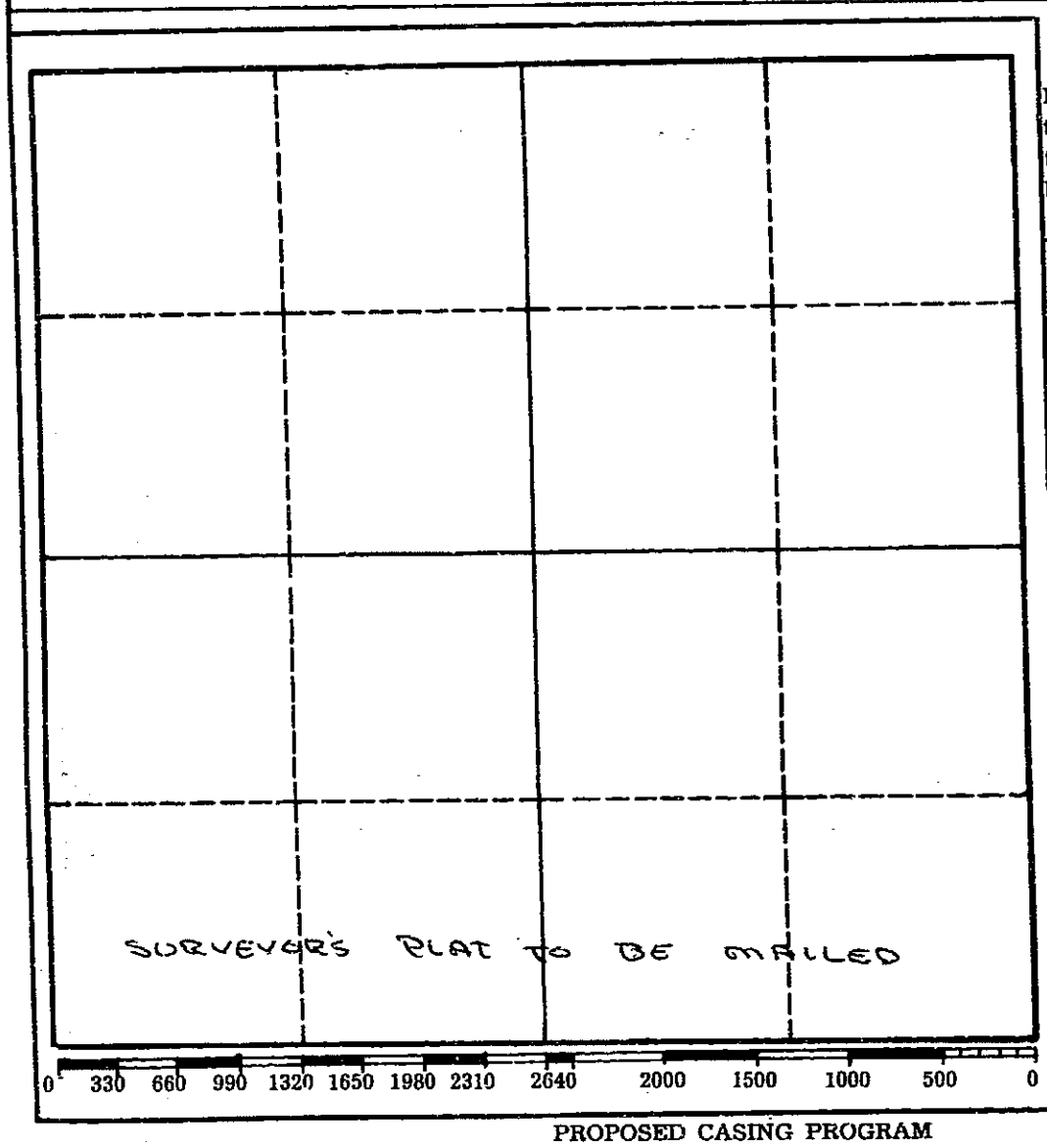
3. All distances shown on the plat must be from the outer boundaries of the Section.

4. Is the Operator the only owner in the dedicated acreage outlined on the plat below? YES X NO_____

5. If the answer to question four is "no," have the interests of all the owners been consolidated by communitization agreement or otherwise? YES_____ NO_____ If answer is "yes," Type of Consolidation_____

6. If the answer to question four is "no," list all the owners and their respective interests below:

Owner	Land Description



CERTIFICATION

I hereby certify that the information above is true and complete to the best of my knowledge and belief.

Name [signature]

Position GEOLOGIST

Company KERR-McGEE CORP

Date 5-19-67

I hereby certify that the well location shown on the plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my knowledge and belief.

Date Surveyed

Registered Professional Engineer and/or Land Surveyor

Certificate No.

PROPOSED CASING PROGRAM

Size of Casing	Weight	Grade & Type	Top	Bottom	Cementing Depths	Sacks Cement
7"	20#	J55	0	250	NONE	

MINERAL STRAT No. 12
PREPARED FOR KERR MCGEE CORP.
SEC. 22, T 20 N. R 27 E. G. & S. R. M.
State of ARIZONA

1983'

Mineral Strat #12
Ground Elev. 5737

1980'

NORTH

22 | 23

T 20 N. R 27 E
G. & S. R. M.

27 | 26

RECEIVED
MAY 24 1967
STATE O & G
CONS. COMM.

414

PREPARED BY:
J. G. MARTINEZ & ASSOC.
ENGINEERS—SURVEYORS
N. M. P. E. & L. S. LIC. NO. 1765

GALLUP NEW MEXICO

Scale 1" = 400'
Date 5-22-1967

Drawing No. QSW - 40

PERMIT TO DRILL

This constitutes the permission and authority from the

OIL AND GAS CONSERVATION COMMISSION,
STATE OF ARIZONA,

To: KERR-MC GEE CORPORATION
(OPERATOR)

to drill a well to be known as

Kerr-McGee #12 Santa Fe (strat test)
(WELL NAME)

located 1980' FSL and FEL (NW/4SE/4)

Section 22 Township 20N Range 27E, Apache County, Arizona.

The all of said
Section, Township and Range is dedicated to this well.

Said well is to be drilled substantially as outlined in the attached Application and must be drilled in full compliance with all applicable laws, statutes, rules and regulations of the State of Arizona.

Issued this 29th day of May, 19 67.

OIL AND GAS CONSERVATION COMMISSION

By John R. Bannister
EXECUTIVE SECRETARY

PRIOR TO BEING ALLOWED TO PRODUCE THIS WELL YOU MUST BE IN FULL COMPLIANCE WITH RULE 105, SECTION A THRU G (S-C...G), WITH RESPECT TO THE PRODUCT TO BE PRODUCED.

PERMIT No. 414

RECEIPT NO. 9506

State of Arizona
Oil & Gas Conservation Commission
Permit to Drill

FORM NO. 27

API 02-001-20038

OFFICE OF

Oil and Gas Conservation Commission

STATE OF ARIZONA

4515 NORTH 7TH AVE.
PHOENIX, ARIZONA 85013
PHONE: (602) 271-5161

October 29, 1973

Mr. Ted Strickland
Rocky Mountain Well Log Service Co.
1753 Champa Street
Denver, Colorado 80202

Dear Mr. Strickland:

As per your request of October 25, 1973, we are sending you the following logs that you have requested with two exceptions: The Geothermal Kinetics #1 Power Ranches well is still in confidential status and we do not have logs on the Kerr-McGee Corp. #10 Santa Fe.

Kerr-McGee Corp. #5 Santa Fe, 23-20N-28E, Apache Co., Permit #407
Sonic Log and Induction Electrical Log

Kerr-McGee Corp. #11 Santa Fe, 24-19N-27E, Apache Co., Permit #413
Borehole Compensated Sonic Log and Induction-Electrical Log

Kerr-McGee Corp. #12 Santa Fe, 22-20N-27E, Apache Co., Permit #414
Borehole Compensated Sonic Log and Induction-Electrical Log

Brown & Thorpe #1 Bullard-Wash, 3-10N-10W, Yavapai Co., Permit #589
Borehole Compensated Sonic Log and Induction-Electrical Log

Arkla Expl. Co., #10 N.M.A., 27-16N-23E, Navajo Co., Permit #359
Radioactivity Log

Due to a recent ruling of the State Finance Department, it is required that this Commission charge postage on the mailing of various matter, i.e., logs, well records and so forth. The postage for mailing the above logs comes to $.83. Please make check payable to the Oil and Gas Conservation Commission.

Very truly yours,

W. E. Allen, Director
Enforcement Section

WEA/rlb

Encs.

Rocky Mountain Well Log Service Co.

1753 Champa Street 266-0588 Area Code 303
DENVER, COLORADO 80202

BOB ANDREWS, Division Manager

CASPER WYOMING
BOB FITZGERALD
PETE. BLDG. ARCADE
PHONE 234-6621

MIDLAND, TEXAS
DAVID CLARK
125 WEST WALL
PHONE 682-2561

October 25, 1973

Mr. W. E. Allen
Oil & Gas Conservation Commission
State of Arizona
4515 N. 7th Ave.
Phoenix, Arizona 85013

Dear Mr. Allen,

May we borrow from you the logs on the following wells:

1. Kerr-McGee Corp.	#5 Santa Fe	23-20N-28E	Apache, Wyo.
2. Kerr-McGee Corp.	#10 Santa Fe	23-20N-27E	Apache, Wyo.
3. Kerr-McGee Corp.	#11 Santa Fe	24-19N-27E	Apache, Wyo.
4. Kerr- McGee Corp.	#12 Santa Fe	22-20N-27E	Apache, Wyo.
5. Gesthermal Kinetics	#1 Power Ranches	1-2S-6E	Maricopa, Ariz.
6.Brown & Thorpe	#1 Bullard-Wash	3-10N-10W	Yavapai, Ariz.
7. Arkla Expl. Co.	#10 N.M.A.	27-16N-23E	Navajo, Ariz.

They will be returned promptly upon completion of our reproduction process.

Thank you for your cooperation

Very truly yours,

Rocky Mountain Well Log Service Co.

Ted Strickland

By: Ted Strickland

414

Operator KERR MC GEE ~~OIL INDUSTRIES INC~~ Corporation

Bond Company Insurance Co. of N. America Amount 25,000

Bond No. M 41 95 25 (~~KM528~~) Date Approved 10-28-65

Permits covered by this bond:

10	386	417
36	389	418
37	390	419
38	391	420
39	392	422
57	396	426
63	397	427
64	398	441
142	399	445
238	402	(446) → see this file
~~303~~	403	
90	404	
91	405	
349	406	
~~303~~	407	
377	408	
378	409	
379	410	
380	411	
381	413	
384	(414)	
385	416	

CANCELLED

DATE 10-24-68

superseded by
American Casualty Co. Bond
$25,000
#5471020-52

KERR-McGEE

KERR-McGEE BUILDING • OKLAHOMA CITY, OKLAHOMA 73102

July 11, 1967

Mr. John Bannister
Arizona Oil & Gas Commission
1624 West Adams
Phoenix, Arizona 85007

Dear Sir:

RE: Kerr-McGee #1 Santa Fe strat test, Permit 402
Kerr-McGee #2 Santa Fe strat test, Permit 403
Kerr-McGee #3 Santa Fe strat test, Permit 404
Kerr-McGee #4 Santa Fe strat test, Permit 406
Kerr-McGee #5 Santa Fe strat test, Permit 407
Kerr-McGee #6 Santa Fe strat test, Permit 408
Kerr-McGee #10 Santa Fe strat test, Permit 405
Kerr-McGee #11 Santa Fe strat test, Permit 413
Kerr-McGee #12 Santa Fe strat test, Permit 414

We are returning the Plugging Record and Application to Plug forms on the above wells. We are also submitting for filing the Well Completion form for each well. We request the information to be kept confidential if there is a provision in your Rules and Regulations for so doing.

Electrical logs on wells where we were able to run them will be filed within 90 days from completion. It is requested that these logs be kept confidential for the six months period following completion.

Respectfully,

John C. Meyer

JCM/mk
Enclosures

RECEIVED
JUL 13 1967
STATE O & G
CONS. COMM.

CONFIDENTIAL

Release Date .....

414

KERR-McGEE CORPORATION

KERR-McGEE BUILDING • OKLAHOMA CITY, OKLAHOMA 73102

May 26, 1967

Mr. John Bannister
Arizona Oil and Gas Conservation Commission
1624 Adams Street
Room 202
Phoenix, Arizona

Dear Mr. Bannister:

Enclosed are two checks in the amount of $25.00 each. They are to cover the fee required for our application for permit to drill Strat Tests 11 and 12. The Application for Permit to Drill (Form No. 3) for each was sent in from Chambers, Arizona. The Surveyor's plat should be in your office by now.

We hope to move to Strat Test 11 and 12 the first of next week. We will temporarily postpone the drilling of Strat Tests #7 and #8.

Sincerely,

John C. Meyer

JCM/mk
Enclosures: 2 checks for $25.00 each

☐ IMMEDIATE REPLY PLEASE ☐ NOTE ENCLOSURES

☐ REPLY NO LATER THAN_____

J. C. Martinez & Associates
ENGINEERS - SURVEYORS
P. O. BOX 178
509 W. AZTEC AVE.
GALLUP, NEW MEXICO
TELEPHONE 863-4042

TO

Mr. John Bannister
Arizona Oil & Gas Conservation Comm
1624 Adams St. Room 202
Phoenix, Arizona

SUBJECT Plat of survey on
Mineral Strat No. 11 and 12

MESSAGE DATE 5/22/76

fold

As requested by Mr. John Meyer, we are forwarding herewith two prints each of the subject plats to accompany Kerr McGee Corp. application for permit to drill strat test.

cc: ~~Mr. John Meyer~~
Mr. Norvell Schoenals

SENT BY J. C. Martinez

REPLY DATE

4/4

ANSWERED BY_____

Return this copy to sender.

5-19-67

MR John Bannister
Oklahoma O & G conservation comm.
Phoenix, Okla

Dear John -

Pls excuse the informality - I don't have much to work with in the Navajo - Chandler - Landon area.

We propose drilling Strat tests # 11 and #12. Form 3 in duplicate is enclosed. The check for each will be sent from OKC. The surveyor will be in the field at once & will mail plats to you.

We propose casing from surface to base dune sand as top Chinle. The water-free sand caves on us and we've lost 2 out of 5 holes. It's as loose as a pile of table salt on a table top.

We propose casing size (from 4 3/4 to 5 1/2) to give us a bit more room to run the Schlumberger 3 5/8 sonde. It's been too sticky and we almost lost one of them.

Jim Leung replaced our boss - will be in touch with you from Okla City early next week.

4/4

Respectfully
John Marr

Will send in Form 25 from OKC changing #7 & #8 from SANTA FE to STATE LEASE.

RECEIVED
MAY 22 1967
STATE O & G
CONS. COMM.

8803 CANARY, 8903 WHITE, 9003 GREEN, 9103 IVORY
PRINTED IN U.S.A.

sl

COUNTY Apache AREA 10 mi NW Red Rock LEASE NO. Nav 14-20-~~603~~ 0603-8429

WELL NAME Pan American Petroleum #1 Navajo-Y

LOCATION ~~XXXX~~ NE SE SEC 16 TWP 38N RANGE 29E FOOTAGE 1940' FSL 900' FEL

ELEV 6582 GR 6595 KB SPUD DATE 6-7-67 STATUS COMP. DATE 7-9-67 TOTAL DEPTH 4445

CONTRACTOR Loffland Brothers

CASING SIZE	DEPTH	CEMENT	LINER SIZE & DEPTH
16"	39'	40 Sks	NA
10 3/4	603'	550 Sks	

DRILLED BY ROTARY x
DRILLED BY CABLE TOOL
PRODUCTIVE RESERVOIR
INITIAL PRODUCTION Dry

FORMATION TOPS	DEPTHS	SOURCE L.L.	SOURCE E.L.	REMARKS
DeChelly	842'	X	X	
Hermosa	2467'			
Igneous Sill	3358'			

ELECTRIC LOGS	PERFORATED INTERVALS	PROD. INTERVALS
IE, Borehole Comp. Sonic-GR; Sidewall Neutron Porosity Log, Comp. Formation Density Log		

SAMPLE LOG Am strat
SAMPLE DESCRP. Farm Cut
SAMPLE NO. 1422 *
CORE ANALYSIS
DSTs
*2514 /Tucson

REMARKS

APP. TO PLUG x
PLUGGING REP. x
COMP. REPORT x

WATER WELL ACCEPTED BY

BOND CO. Seaboard Surety Co. BOND NO. None

BOND AMT. $ 25,000 CANCELLED DATE ORGANIZATION REPORT 6-16-67

FILING RECEIPT 9507 LOC. PLAT x WELL BOOK x PLAT BOOK x

API NO. DATE ISSUED 5-29-67 DEDICATION E/2 SE/4

PERMIT NUMBER 415

CONFIDENTIAL

(over) Release Date 1-11-68

[redacted]

DRILL STEM TEST

NO.	FROM	TO	RESULTS
1	839	877	Rec. 10 DM
~~2~~	~~2704~~	~~2843~~	~~Rec. 15 DM~~
~~3~~	~~3441~~	~~3636~~	~~Rec. 5' DM~~
~~4~~	~~4368~~	~~4445~~	~~Rec. 5' DM~~ ~~SEE FILE FOR DETAILS~~

CORE RECORD

NO.	FROM	TO	RECOVERY	REMARKS

REMEDIAL HISTORY

DATE STARTED	COMPLETED	WORK PERFORMED	NEW PERFORATIONS

ADDITIONAL INFORMATION

WELL COMPLETION OR RECOMPLETION REPORT AND WELL LOG

DESIGNATE TYPE OF COMPLETION:

New Well [X] Work-Over [ ] Deepen [ ] Plug Back [ ] Same Reservoir [ ] Different Reservoir [ ] Oil [ ] Gas [ ] Dry [X]

DESCRIPTION OF WELL AND LEASE

Operator: Pan American Petroleum Corporation	Address: 501 Airport Drive, Farmington, New Mexico 87401
Federal, State or Indian Lease Number or name of lessor if fee lease: 14-20-0603-8429	Well Number: 1
	Field & Reservoir: Wildcat
Location: 1940' FSL and 900' FEL	County: Apache
Sec. TWP-Range or Block & Survey: Section 16, T-38-N, R-29-E --- NE/4 SE/4	

Date spudded	Date total depth reached	Date completed, ready to produce	Elevation (DF, RKB, RT or Gr.)	Elevation of casing hd. flange
6-7-67	7-5-67	7-8-67 (PXA)	6595 (RDB) feet	-- feet

Total depth	P.B.T.D.	Single, dual or triple completion?	If this is a dual or triple completion, furnish separate report for each completion.
4445'	--	---	--

Producing interval (s) for this completion	Rotary tools used (interval)	Cable tools used (interval)
None	0-4445'	--

Was this well directionally drilled?	Was directional survey made?	Was copy of directional survey filed?	Date filed
No	No		

Type of electrical or other logs run (check logs filed with the commission)	Date filed
IES, GR Sonic, SNP Caliper, Density, Dipmeter	7-7-67

CASING RECORD

Casing (report all strings set in well—conductor, surface, intermediate, producing, etc.)

Purpose	Size hole drilled	Size casing set	Weight (lb./ft.)	Depth set	Sacks cement	Amt. pulled
Conductor	20"	16"	42.75#	39'	40	None
Surface	15"	10-3/4"	40.5#	603'	550	None
	8-3/4"					

TUBING RECORD

Size	Depth set	Packer set at
in.	ft.	ft.

LINER RECORD

Size	Top	Bottom	Sacks cement	Screen (ft.)
in.	ft.	ft.		

PERFORATION RECORD

Number per ft.	Size & type	Depth Interval
None		

ACID, SHOT, FRACTURE, CEMENT SQUEEZE RECORD

Am't. & kind of material used	Depth Interval

INITIAL PRODUCTION

Date of first production	Producing method (indicate if flowing, gas lift or pumping—if pumping, show size & type of pump:)

Date of test	Hrs. tested	Choke size	Oil prod. during test	Gas prod. during test	Water prod. during test	Oil gravity
			bbls.	MCF	bbls.	* API (Corr)

Tubing pressure	Casing pressure	Cal'ted rate of Production per 24 hrs.	Oil	Gas	Water	Gas—oil ratio
			bbls.	MCF	bbls.	

Disposition of gas (state whether vented, used for fuel or sold):

CERTIFICATE: I, the undersigned, under the penalty of perjury, state that I am the Area Engineer of the Pan American Petroleum Corporation (company), and that I am authorized by said company to make this report: and that this report was prepared under my supervision and direction and that the facts stated therein are true, correct and complete to the best of my knowledge.

July 10, 1967
Date

G. W. Eaton Jr.
Signature

RECEIVED JUL 12 1967 STATE O & G CONS. COMM.

Permit No. 415

STATE OF ARIZONA
OIL & GAS CONSERVATION COMMISSION
Well Completion or Recompletion Report and Well Log
File One Copy
Form No. 4

(Complete Reverse Side)

DETAIL OF FORMATIONS PENETRATED

Formation	Top	Bottom	Description*
T. DeChelly	842'		
T. Hermosa	2467'		
T. Sill	3358'		

* Show all important zones of porosity, detail of all cores, and all drill-stem tests, including depth interval tested, cushion used, time tool open, flowing and shut-in pressures, and recoveries.

INSTRUCTIONS:

Attach drillers log or other acceptable log of well.

This Well Completion or Recompletion report and well log shall be filed with the State of Arizona Oil & Gas Conservation Commission not later than thirty days after project completion.

Form No. 4

PLUGGING RECORD

Operator: PAN AMERICAN PETROLEUM CORPORATION		Address: 501 Airport Drive, Farmington, New Mexico 87401	
Federal, State, or Indian Lease Number, or lessor's name if fee lease: 14-20-0603-8429 Navajo Tribal "V"	Well No.: 1	Field & Reservoir: Wildcat	
Location of Well: 1940' FSL & 900' FEL	Sec-Twp-Rge or Block & Survey: Section 16, T-38N, R-29E	County: Apache	

Application to drill this well was filed in name of	Has this well ever produced oil or gas	Character of well at completion (initial production): Oil (bbls/day)	Gas (MCF/day)	Dry?
Pan American Petr. Corp.	No	None	None	Yes

Date plugged:	Total depth	Amount well producing when plugged: Oil (bbls/day)	Gas (MCF/day)	Water (bbls/day)
7-8-67 (PXA)	4445'	None	None	None

Name of each formation containing oil or gas. Indicate which formation open to well-bore at time of plugging	Fluid content of each formation	Depth interval of each formation	Size, kind & depth of plugs used Indicate zones squeeze cemented, giving amount cement
None			Cement 40 sacks (3300-3400')
			Cement 40 sacks (2400-2500')
			Cement 80 sacks (750- 950')
			Cement 30 sacks (Surface-50')

CASING RECORD

Size pipe	Put in well (ft.)	Pulled out (ft.)	Left in well (ft.)	Give depth and method of parting casing (shot, ripped, etc.)	Packers and shoes
16"	39'	0	39'		
10-3/4"	603'	0	603'		

RECEIVED JUL 20 1967 STATE O & G CONS. COMM.

Was well filled with mud-laden fluid, according to regulations?	Indicate deepest formation containing fresh water.
Yes	None

NAMES AND ADDRESSES OF ADJACENT LEASE OPERATORS OR OWNERS OF THE SURFACE

Name	Address	Direction from this well:
No adjacent lease operators		
Navajo Tribe of Indians	Window Rock, Arizona, Surface Owners	

In addition to other information required on this form, if this well was plugged back for use as a fresh water well, give all pertinent details of plugging operations to base of fresh water sand, perforated interval to fresh water sand, name and address of surface owner, and attach letter from surface owner authorizing completion of this well as a water well and agreeing to assume full liability for any subsequent plugging which might be required.

None

Use reverse side for additional detail.

CERTIFICATE: I, the undersigned, under the penalty of perjury, state that I am the Area Engineer of the Pan American Petroleum Corporation company) and that I am authorized by said company to make this report; and that this report was prepared under my supervision and direction and that the facts stated therein are true, correct and complete to the best of my knowledge.

July 17, 1967
Date

G. W. Eaton Jr.
Signature

Permit No. 415

STATE OF ARIZONA
OIL & GAS CONSERVATION COMMISSION
Plugging Record
File One Copy

Form No. 10

APPLICATION TO ABANDON AND PL[UG]

FIELD Wildcat

OPERATOR Pan American Petroleum Corporation ADDRESS 501 Airport Dr., Farmington, New Mexico 87401

Federal, State, or Indian Lease Number or Lessor's Name if Fee Lease Navajo Tribal "V" - 14-20-0603-8429 WELL NO 1

SURVEY -- SECTION Sec. 16, T38N, R29E COUNTY Apache

LOCATION 1940' FSL and 900' FEL

TYPE OF WELL Dry Hole (Oil, Gas or Dry Hole) TOTAL DEPTH 4445'

ALLOWABLE (If Assigned) None

LAST PRODUCTION TEST OIL 0 (Bbls.) WATER 0 (Bbls.)

GAS 0 (MCF) DATE OF TEST 7-8-67

PRODUCING HORIZON None PRODUCING FROM TO

1. COMPLETE CASING RECORD Set 16" casing (42.75#/ft.) at 39' in a 20" hole with 40 sacks of cement. Set 10-3/4" casing (40.5#/ft.) at 603' in a 15" hole with 550 sacks of cement.

2. FULL DETAILS OF PROPOSED PLAN OF WORK Set cement plugs as follows:

3300-3400' - 40 sacks

2400-2500' - 40 sacks

750- 950' - 80 sacks

Surface - 50' - 30 sacks

Erect marker and clean up area

RECEIVED JUL 20 1967 STATE O & G CONS. COMM.

If well is to be abandoned, does proposed work conform with requirements of Rule 202? Yes. If not, outline proposed procedure above.

DATE COMMENCING OPERATIONS July 8, 1967

NAME OF PERSON DOING WORK Bryon-Jackson Inc. ADDRESS 1115 Fairview Ave. Farmington, New Mexico

CORRESPONDENCE SHOULD BE SENT TO L. O. Speer, Jr.
Name

Area Superintendent
Title

501 Airport Drive, Farmington, New Mexico 87401
Address

July 17, 1967
Date

Date Approved 7-20-67

STATE OF ARIZONA
OIL & GAS CONSERVATION COMMISSION

By: John Bannister

Permit No. 415

STATE OF ARIZONA
OIL & GAS CONSERVATION COMMISSION
Application to Abandon and Plug
File Two Copies
Form No. 9

Form 9-330
(Rev. 5-63)

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

SUBMIT IN DUPLICATE* (See other instructions on reverse side)

Form approved.
Budget Bureau No. 42-R355.5.

WELL COMPLETION OR RECOMPLETION REPORT AND LOG*

1a. TYPE OF WELL: OIL WELL ☐ GAS WELL ☐ DRY ☒ Other

b. TYPE OF COMPLETION: NEW WELL ☒ WORK OVER ☐ DEEP-EN ☐ PLUG BACK ☐ DIFF. RESVR. ☐ Other

2. NAME OF OPERATOR
PAN AMERICAN PETROLEUM CORPORATION

3. ADDRESS OF OPERATOR
501 Airport Drive, Farmington, New Mexico 87401

4. LOCATION OF WELL (*Report location clearly and in accordance with any State requirements*)*
At surface **1940' FSL and 900' FEL**
At top prod. interval reported below **Same**
At total depth **Same**

5. LEASE DESIGNATION AND SERIAL NO.
14-20-0603-8429

6. IF INDIAN, ALLOTTEE OR TRIBE NAME
Navajo

7. UNIT AGREEMENT NAME

8. FARM OR LEASE NAME
Navajo Tribal "V"

9. WELL NO.
1

10. FIELD AND POOL, OR WILDCAT
Wildcat

11. SEC., T., R., M., OR BLOCK AND SURVEY OR AREA
NE/4 SE/4 Section 16, T-38-N, R-29-E

12. COUNTY OR PARISH
Apache

13. STATE
Arizona

14. PERMIT NO. | DATE ISSUED

15. DATE SPUDDED	16. DATE T.D. REACHED	17. DATE COMPL. (*Ready to prod.*)	18. ELEVATIONS (DF, RKB, RT, GR, ETC.)*	19. ELEV. CASINGHEAD
6-7-67	7-5-67	7-8-67 (PXA)	6595' (RDB)	

20. TOTAL DEPTH, MD & TVD	21. PLUG, BACK T.D., MD & TVD	22. IF MULTIPLE COMPL., HOW MANY*	23. INTERVALS DRILLED BY	ROTARY TOOLS	CABLE TOOLS
4445'			→	39'--4445'	0 - 39'

24. PRODUCING INTERVAL(S), OF THIS COMPLETION—TOP, BOTTOM, NAME (MD AND TVD)*
None

25. WAS DIRECTIONAL SURVEY MADE
No

26. TYPE ELECTRIC AND OTHER LOGS RUN
IES, GR Sonic, SNP Caliper, Density, Dipmeter

27. WAS WELL CORED
No

28. CASING RECORD (*Report all strings set in well*)

CASING SIZE	WEIGHT, LB./FT.	DEPTH SET (MD)	HOLE SIZE	CEMENTING RECORD	AMOUNT PULLED
16"	42.75#	39'	20"	40 sacks	None
10-3/4"	40.5#	603'	15"	550 sacks	None
			8-3/4"		

29. LINER RECORD

SIZE	TOP (MD)	BOTTOM (MD)	SACKS CEMENT*	SCREEN (MD)

30. TUBING RECORD

SIZE	DEPTH SET (MD)	PACKER SET (MD)

31. PERFORATION RECORD (*Interval, size and number*)
None

32. ACID, SHOT, FRACTURE, CEMENT SQUEEZE, ETC.

DEPTH INTERVAL (MD)	AMOUNT AND KIND OF MATERIAL USED

33.* PRODUCTION

DATE FIRST PRODUCTION	PRODUCTION METHOD (*Flowing, gas lift, pumping—size and type of pump*)	WELL STATUS (*Producing or shut-in*)
		Well PXA 7-8-67

DATE OF TEST	HOURS TESTED	CHOKE SIZE	PROD'N. FOR TEST PERIOD →	OIL—BBL.	GAS—MCF.	WATER—BBL.	GAS-OIL RATIO

FLOW. TUBING PRESS.	CASING PRESSURE	CALCULATED 24-HOUR RATE →	OIL—BBL.	GAS—MCF.	WATER—BBL.	OIL GRAVITY-API (CORR.)

34. DISPOSITION OF GAS (*Sold, used for fuel, vented, etc.*)

TEST WITNESSED BY

35. LIST OF ATTACHMENTS
None

36. I hereby certify that the foregoing and attached information is complete and correct as determined from all available records

SIGNED ORIGINAL SIGNED BY: G. W. Eaton, Jr. G. W. Eaton, Jr. TITLE **Area Engineer** DATE **July 11, 1967**

*(See Instructions and Spaces for Additional Data on Reverse Side)

JDP

2 415

INSTRUCTIONS

General: This form is designed for submitting a complete and correct well completion report and log on all types of lands and leases to either a Federal agency or a State agency, or both, pursuant to applicable Federal and/or State laws and regulations. Any necessary special instructions concerning the use of this form and the number of copies to be submitted, particularly with regard to local, area, or regional procedures and practices, either are shown below or will be issued by, or may be obtained from, the local Federal and/or State office. See instructions on items 22 and 24, and 33, below regarding separate reports for separate completions.

If not filed prior to the time this summary record is submitted, copies of all currently available logs (drillers, geologists, sample and core analysis, all types electric, etc.), formation and pressure tests, and directional surveys, should be attached hereto, to the extent required by applicable Federal and/or State laws and regulations. All attachments should be listed on this form, see item 35.

Item 4: If there are no applicable State requirements, locations on Federal or Indian land should be described in accordance with Federal requirements. Consult local State or Federal office for specific instructions.

Item 18: Indicate which elevation is used as reference (where not otherwise shown) for depth measurements given in other spaces on this form and in any attachments.

Items 22 and 24: If this well is completed for separate production from more than one interval zone (multiple completion), so state in item 22, and in item 24 show the producing interval, or intervals, top(s), bottom(s) and name(s) (if any) for only the interval reported in item 33. Submit a separate report (page) on this form, adequately identified, for each additional interval to be separately produced, showing the additional data pertinent to such interval.

Item 29: "*Sacks Cement*": Attached supplemental records for this well should show the details of any multiple stage cementing and the location of the cementing tool.

Item 33: Submit a separate completion report on this form for each interval to be separately produced. (See instruction for items 22 and 24 above.)

FORMATION	TOP
T. DeChelly	842'
T. Hermosa	2467'
T. Sill	3358'

37. SUMMARY OF POROUS ZONES: SHOW ALL IMPORTANT ZONES OF POROSITY AND CONTENTS THEREOF; CORED INTERVALS; AND ALL DRILL-STEM TESTS, INCLUDING DEPTH INTERVAL TESTED, CUSHION USED, TIME TOOL OPEN, FLOWING AND SHUT-IN PRESSURES, AND RECOVERIES

FORMATION	TOP	BOTTOM	DESCRIPTION, CONTENTS, ETC.
WELL HISTORY			Spudded 20" hole with cable tools 6-7-67. Set 16" casing to 39'. Moved in rotary tools. Spudded 15" hole 6-12-67 and drilled to 603' and set 10-3/4" casing. Rotary drilled to 4445' with 8-3/4" hole. Drill Stem Test No. 1 (839-877'). Tool open 5 minutes - shut in 30 minutes, Tool open 90 minutes - shut in 30 minutes. No bubbles at surface. Initial bottom hole pressure shut in 26 psi. Final bottom hole pressure 26 psi. Bottom hole pressure flowing 26-26. Hydrostatic pressure in 418 and out 392. Recovered 10' drilling mud. No show of oil or gas. Bottom hole temperature 80° F. Drill Stem Test No. 2 (2704-2863'). Mud 9.3-58. 1/4" surface choke, 3/4" bottom hole choke. Tool open 5 minutes - very weak blow immediately - died in 2 minutes. Shut in 1 hour, tool open 3 hours. Weak blow immediately. Died in 1-1/2 minutes. Shut in 1 hour. Recovered 15' drilling mud and few bubbles of gas. Hydrostatic pressure in 1365 and out 1309 psi. Initial bottom hole pressure shut in 115 psi, final bottom hole pressure shut in 143 psi. Bottom hole pressure flowing is 86-86. Bottom hole temperature 95° F. Drill Stem Test No. 3 (3441-3636'). Tool open 5 minutes - weak blow. Shut in for 45 minutes and tool open for 2 hours. Good blow for 15 minutes, decreasing to very weak blow at end of test. Shut in for 45 minutes. Recovered 5' drilling mud. Hydrostatic pressure in 1732 and out 1732 psi. Initial bottom hole pressure shut in for 45 minutes 267 psi. Bottom hole pressure final 24-24. Final bottom hole pressure shut in 267 psi and bottom hole temperature 95° F. Drill Stem Test No. 4 (4368-4445'). Tool open 5 minutes - very weak blow in 30 seconds and continuing through out test. Shut in for 1 hour and tool open for 2-1/2 hours. No blow at surface. Shut in for 1 hour. Hydrostatic pressure in 2104 and out 1990 psi. Initial bottom hole pressure shut in 86 psi and final 86 psi. Bottom hole pressure final 57-57. Recovered 5' drilling mud and no show of gas or oil. Plug and abandoned on 7-9-67 in the following manner: 40 sacks cement from 3300 to 3400', 40 sacks from 2400-2500', 80 sacks from 750-950', 30 sacks from surface to 50'.

38. GEOLOGIC MARKERS

NAME	TOP MEAS. DEPTH	TOP TRUE VERT. DEPTH

U.S. GOVERNMENT PRINTING OFFICE : 1963—O-683036

SIH

Form 9-331
(May 1963)

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

SUBMIT IN TRIPLICATE* (Other instructions on reverse side)

Form approved.
Budget Bureau No. 42-R1424.

SUNDRY NOTICES AND REPORTS ON WELLS

(Do not use this form for proposals to drill or to deepen or plug back to a different reservoir. Use "APPLICATION FOR PERMIT—" for such proposals.)

1. OIL WELL ☐ GAS WELL ☐ OTHER Wildcat

2. NAME OF OPERATOR
PAN AMERICAN PETROLEUM CORPORATION

3. ADDRESS OF OPERATOR
501 Airport Drive, Farmington, New Mexico 87401

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.* See also space 17 below.)
At surface
1940' FSL & 900' FEL

14. PERMIT NO.

15. ELEVATIONS (Show whether DF, RT, GR, etc.)
6595' (RDB)

5. LEASE DESIGNATION AND SERIAL NO.
14-20-0603-8429

6. IF INDIAN, ALLOTTEE OR TRIBE NAME
Navajo

7. UNIT AGREEMENT NAME

8. FARM OR LEASE NAME
Navajo Tribal "V"

9. WELL NO.
1

10. FIELD AND POOL, OR WILDCAT
Wildcat

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA
NE/4 SE/4 Section 16, T-38-N, R-29-E

12. COUNTY OR PARISH
Apache

13. STATE
Arizona

16. Check Appropriate Box To Indicate Nature of Notice, Report, or Other Data

NOTICE OF INTENTION TO:				SUBSEQUENT REPORT OF:			
TEST WATER SHUT-OFF	☐	PULL OR ALTER CASING	☐	WATER SHUT-OFF	☐	REPAIRING WELL	☐
FRACTURE TREAT	☐	MULTIPLE COMPLETE	☐	FRACTURE TREATMENT	☐	ALTERING CASING	☐
SHOOT OR ACIDIZE	☐	ABANDON*	☐	SHOOTING OR ACIDIZING	☐	ABANDONMENT*	X
REPAIR WELL	☐	CHANGE PLANS	☐				
(Other)				(Other)			

(NOTE: Report results of multiple completion on Well Completion or Recompletion Report and Log form.)

17. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)*

In reference to our notice of intention to abandon the above well, it was abandoned on July 8, 1967 in the following manner. Set cement plugs as follows:

40 sacks - 3300-3400'
40 sacks - 2400-2500'
30 sacks - 750-850'
30 sacks - Surface - 50'

Erected abandonment marker.

RECEIVED
AUG 15 1968
STATE O & G
CONS. COMM.

RECEIVED
JUL 12 1967
U. S. GEOLOGICAL SURVEY
FARMINGTON, N. M.

18. I hereby certify that the foregoing is true and correct

SIGNED ORIGINAL SIGNED G. W. Eaton, Jr. TITLE Area Engineer DATE July 11, 1967
G. W. Eaton, Jr.

(This space for Federal or State office use)

APPROVED BY TITLE DATE
CONDITIONS OF APPROVAL, IF ANY:

APPROVED
AUG 7 1968
P. T. McGRATH
DISTRICT ENGINEER

JBP

*See Instructions on Reverse Side

Form 9-331
(May 1963)

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

SUBMIT IN TRIPLICATE* (Other instructions on reverse side)

Form approved.
Budget Bureau No. 42-R1424.

SUNDRY NOTICES AND REPORTS ON WELLS

(Do not use this form for proposals to drill or to deepen or plug back to a different reservoir. Use "APPLICATION FOR PERMIT—" for such proposals.)

1. OIL WELL ☐ GAS WELL ☐ OTHER Wildcat

2. NAME OF OPERATOR
PAN AMERICAN PETROLEUM CORPORATION

3. ADDRESS OF OPERATOR
501 Airport Drive, Farmington, New Mexico 87401

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.* See also space 17 below.)
At surface
1940' FSL and 900' FEL

5. LEASE DESIGNATION AND SERIAL NO.
14-20-0603-8429

6. IF INDIAN, ALLOTTEE OR TRIBE NAME
Navajo

7. UNIT AGREEMENT NAME

8. FARM OR LEASE NAME
Navajo Tribal "V"

9. WELL NO.
1

10. FIELD AND POOL, OR WILDCAT
Wildcat

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA
NE/4 SE/4 Section 16, T-38-N, R-29-E

12. COUNTY OR PARISH
Apache

13. STATE
Arizona

14. PERMIT NO.

15. ELEVATIONS (Show whether DF, RT, GR, etc.)
6595' (RDB)

16. Check Appropriate Box To Indicate Nature of Notice, Report, or Other Data

NOTICE OF INTENTION TO:				SUBSEQUENT REPORT OF:			
TEST WATER SHUT-OFF	☐	PULL OR ALTER CASING	☐	WATER SHUT-OFF	☐	REPAIRING WELL	☐
FRACTURE TREAT	☐	MULTIPLE COMPLETE	☐	FRACTURE TREATMENT	☐	ALTERING CASING	☐
SHOOT OR ACIDIZE	☐	ABANDON*	☒	SHOOTING OR ACIDIZING	☐	ABANDONMENT*	☐
REPAIR WELL	☐	CHANGE PLANS	☐				
(Other)				(Other)			

(NOTE: Report results of multiple completion on Well Completion or Recompletion Report and Log form.)

17. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)*

Inasmuch as the above well was a dry hole, we plan to plug and abandon in the following manner:

3300-3400' - 40 sacks
2400-2500' - 40 sacks
750-950' - 80 sacks
Surface - 50' - 30 sacks

Procedure verbally approved by Mr. McGrath to George W. Eaton, Jr., on July 7, 1967.

RECEIVED
JUL 17 1967
STATE O & G
CONS. COMM.

RECEIVED
JUL 12 1967
U. S. GEOLOGICAL SURVEY
FARMINGTON, N. M.

18. I hereby certify that the foregoing is true and correct

SIGNED ORIGINAL SIGNED G. W. Eaton, Jr. TITLE Area Engineer DATE July 11, 1967

(This space for Federal or State office use)

APPROVED BY _____ TITLE _____ DATE _____

CONDITIONS OF APPROVAL, IF ANY:

APPROVED
JUL 8 1967
JOHN L. WARD
ACTING DISTRICT ENGINEER

JBP

*See Instructions on Reverse Side

Telcon w/George Eaton, PanAm

7-7-67 4:15 p.m.

Re: Pan American #1 Navajo V
Permit 415

Ran logs yesterday and today--everything Schlumberger had. Still trying to interpret logs; and depending upon final interpretation by the experts, may want to plug over this weekend.

Phil McGrath, U.S.G.S., and Hank Pohlmann, Navajo Tribe, were on site today. Eaton, McGrath and Pohlmann all agreed they could see nothing encouraging on the logs. However, the logging experts will have the final decision and if they see nothing then will plug in accordance with the program outlined below as agreed between McGrath and Eaton:

T.D. 4445'.
Top of sill at 3358'.
Plug from 3300-3400'
Top of Hermosa at 2465'
Plug from 2400-2500'
Top of De Chelly (as Eaton calls it, but McGrath calls it Cutler) at 842'
Plug from 750-950'
Pipe, 10 3/4", set at 603'. Will not set a plug across casing since above plug is so close.
Plug 50' to surface.

Will erect marker and clean up location.

Will put logs in mail tonight and ship samples to Commission office.

Will file copies of U.S.G.S. sundries reports covering application to plug, plugging record, well completetion report, as well as a completion report on our form.

Will in a few days give us a letter to release all info from confidential.

Did of course give verbal permission to plug in accordance with above.

8 415

[redacted]

Elevation: 6582 GR
6595 KB

WELL SITE CHECK

By JRS
Date 7-5-67

Contractor Loffland Bros
Person(s) Contacted Lou Bortz & Wayne Valeske

Spud Date _____

Type Rig _____ Rotary ✓ Cable Tool

Present Operations _____

Samples _____

Pipe _____

Drilling with Air Mud

Water Zones _____

Size Hole _____

Lost Circ. Zones _____

Size Drill Pipe _____

Formation Tops _____

Type Bit _____

Cores, Logs, DST _____

No. Bit ____ Drilling Date _____

Formation _____

Crews _____

Lithology _____

REMARKS, PHOTO, MAP

Has Core Lab on Location

tops: De Chelly 842 Smpl
Cutler 1200 "
Hermosa 2506 "

Size hole 8 3/4

DST #2 Hermosa
2704 – 2844 Rec 15' sli GC Mud
IF 86
FF 86
ISIP 1146/60"
FSIP 143.6/60"
Max Temp 48°

DST #1 De Chelly 839- 877
Open 5" No blow
SI 30"
Open 1½ hes
SI 30"
Rec 10' M
ISIP 26.2 #/30"
FSIP 26.2 #/30"
IF 26.2 #
FF 26.2 #
IH 418 #
FH 392.2 #

(See Reverse side)

WELL NAME Tom Dm V-1

Permit No. 415
Confidential: (yes) No

DST # 3

3141 - 3636 Open 5" ; SI 45" ; Open 2 hrs; FSI 45" :

Tool open 2nd time : Good blow 15 min; Very weak blow after 1 hr 45 min.

ISIP 267 / 45 min

FSIP 267 / 45 min

DST #4 4368 - 4445 Open 2 hrs. Rec 5' ϕ mud N. show

Open 5" IF

ISIP 86 #/60"

FSIP 86 #/60"

IF 57 #

FF 57#

Very weak blow after 30 sec throughout 5 min flow period.

No blow on 2nd flow period.

Top Quartz diorite — 3358

Top diabase —— 4418

TD 4445

July 5, 1967

Telcon w/George Eaton

Re: Pan American #1 Navajo V
Permit 415

Present depth 4446. Still in sill.

Preparing to DST again today. Things do not look encouraging at present. If no encouragement from this DST will not deepen and TD will be4446, and will log tomorrow, July 6, 1967. If there is encouragement from DST will deepen.

Not same type of igneous sill as encountered in Dineh bi Keyah Field. This sill is a dioryte sill: no indication of porosity except possibly from some tiny fractures.

Fleuresence reported previsouly was: fractures have filled with an extraneous material, like calcite. It was this material that flouresced.

10 415

Form 9-331
(May 1963)

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

SUBMIT IN TRIPLICATE* (Other instructions on reverse side)

Form approved.
Budget Bureau No. 42-R1424.

SUNDRY NOTICES AND REPORTS ON WELLS

(Do not use this form for proposals to drill or to deepen or plug back to a different reservoir. Use "APPLICATION FOR PERMIT—" for such proposals.)

1. OIL WELL ☐ GAS WELL ☐ OTHER **Wildcat**

2. NAME OF OPERATOR
Pan American Petroleum Corporation

3. ADDRESS OF OPERATOR
501 Airport Drive, Farmington, New Mexico

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.* See also space 17 below.)
At surface
1940' FSL and 900' FEL

CONFIDENTIAL

5. LEASE DESIGNATION AND SERIAL NO.
14-20-0603-8429

6. IF INDIAN, ALLOTTEE OR TRIBE NAME
Navajo Tribe

7. UNIT AGREEMENT NAME

8. FARM OR LEASE NAME
Navajo Tribal "V"

9. WELL NO.
1

10. FIELD AND POOL, OR WILDCAT
Exploratory

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA
NE/4 SE/4 Section 16, T-38-N, R-29-E

12. COUNTY OR PARISH
Apache

13. STATE
Arizona

14. PERMIT NO.

15. ELEVATIONS (Show whether DF, RT, GR, etc.)
6582' GL

16. Check Appropriate Box To Indicate Nature of Notice, Report, or Other Data

NOTICE OF INTENTION TO:				SUBSEQUENT REPORT OF:			
TEST WATER SHUT-OFF	☐	PULL OR ALTER CASING	☐	WATER SHUT-OFF	☐	REPAIRING WELL	☐
FRACTURE TREAT	☐	MULTIPLE COMPLETE	☐	FRACTURE TREATMENT	☐	ALTERING CASING	☐
SHOOT OR ACIDIZE	☐	ABANDON*	☐	SHOOTING OR ACIDIZING	☐	ABANDONMENT*	☐
REPAIR WELL	☐	CHANGE PLANS	☐	(Other) **Monthly Report**			X
(Other)				(NOTE: Report results of multiple completion on Well Completion or Recompletion Report and Log form.)			

17. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)*

Status 6-29-67 drilling 3631'. Spud surface hole 6-7-67 and set conductor pipe at 39'. Drilled to 603' and set 10-3/4" casing at 603'. Cement circulated.

These are the results of two drill stem tests conducted on the well.

Drill Stem Test No. 1 - 839-877' (DeChelly)

Tool open 5 minutes, shut in 30 minutes, tool open 1-1/2 hours, shut in 30 minutes. No bubbles at surface. Initial Pressure - 26 psi in 30 minutes; final pressure - 26 psi in 30 minutes. Bottom hole pressure flowing 26-26. Hydrostatic head in 418; Hydrostatic head out 392. Recovered 10' of drilling mud and no show of oil or gas. Bottom hole temperature = 80° F.

Drill Stem Test No. 2 - 2704-2843' (Hermosa)

Mud 9.3-58. 1/4" surface choke; 3/4" bottom hole choke. Tool open 5 minutes - very weak blow immediately, died in 2 minutes. Shut in for 1 hour. Tool open 3 hours. Weak blow immediately, died in 1-1/2 minutes. Shut in for 1 hour. Recovered 15' drilling mud - few bubbles of gas. Hydrostatic head in 1365; Hydrostatic head out 1309. Initial pressure 115 psi; final pressure 143 psi. Bottom hole pressure flowing 86-86. Bottom hole temperature = 95° F.

18. I hereby certify that the foregoing is true and correct

SIGNED ORIGINAL SIGNED G. W. Eaton, Jr. TITLE **Area Engineer** DATE **June 30, 1967**
G. W. Eaton, Jr.

(This space for Federal or State office use)

APPROVED BY _____ TITLE _____ DATE _____
CONDITIONS OF APPROVAL, IF ANY:

*See Instructions on Reverse Side

CONFIDENTIAL

415

June 30, 1967

Telcon w/George Eaton

Re: Pan American #1 Navajo F
Permit 415

Present depth 3636' in Pennsylvanian. Preparing to DST today. REsults will be forwarded immediately.

Initial target was Barker Creek member of Pennsylvanian, expected at about 3450'. Entire formation apparently replace by igneous sill from 3450' to 3600'. Approximately three intervals (from 2 to 3 feet thick) fleuresced.) due to calcite filling fractures - report of 7-5-67

Coconino came in at approximately 800'. Top of Hermosa consists of shales and limestons, primarily limeston, at 2505'.

Will continue deepening after DST.

Pan Am

DST Run 6-30-67

interval 3441' to 3636'
open 2 hrs
Good blow for 15 min, decreasing to
weak blow
recovered 5' dlg. mud
ISIP 267
FSIP 267
initial flow 24
final flow 24

per Geo. Eaton - telephone 3:40 pm

415

SUNDRY NOTICES AND REPORTS ON WELLS

1. Name of Operator: Pan American Petroleum Corporation

2. OIL WELL ☐ GAS WELL ☐ OTHER XX (Specify) Exploratory

3. Well Name: Navajo Tribal "V" No. 1

Location: 1940' FSL and 900' FEL

Sec. 16 Twp. 38-N Rge. 29-E County Apache, Arizona.

4. Federal, State or Indian Lease Number, or lessor's name if fee lease: Navajo 14-20-0603-8429

5. Field or Pool Name: Exploratory

6. Check Appropriate Box to Indicate Nature of Notice, Report, or Other Data

NOTICE OF INTENTION TO:				SUBSEQUENT REPORT OF:			
TEST WATER SHUT-OFF	☐	PULL OR ALTER CASING	☐	WATER SHUT-OFF	☐	MONTHLY PROGRESS	☐
FRACTURE TREAT	☐	DIRECTIONAL DRILL	☐	FRACTURE TREATMENT	☐	REPAIRING WELL	☐
SHOOT OR ACIDIZE	☐	PERFORATE CASING	☐	SHOOTING OR ACIDIZING	☐	ALTERING CASING	☐
REPAIR WELL	☐	CHANGE PLANS	☐			ABANDONMENT	☐
(OTHER)			☐	(OTHER) Progress Report			XX

(NOTE: Report results of multiple completion on Well Completion or Recompletion Report and Log form.)

7. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)

Spud June 7, 1967 and set 16" conductor pipe at 39', using Crane Drilling Company rig. Moved in and drilled ahead with Loffland Bros. rig June 12, 1967.

10-3/4" surface casing set at 603' and cemented with 500 sacks Class "A" cement with 2% calcium chloride and 2% gel. Cement circulated.

RECEIVED
JUN 26 1967
STATE O & G
CONS. COMM.

8. I hereby certify that the foregoing is true and correct.

Signed G. W. Eaton, Jr. Title Area Engineer Date June 23, 1967

G. W. Eaton, Jr.

Permit No. 415

STATE OF ARIZONA
OIL & GAS CONSERVATION COMMISSION
Sundry Notices and Reports On Wells
File Two Copies
Form No. 25

12

Form 9-331 C
(May 1963)

SUBMIT IN TRIPLICATE*
(Other instructions on reverse side)

Form approved.
Budget Bureau No. 42-R1425.

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK

1a. TYPE OF WORK: DRILL [X] DEEPEN [ ] PLUG BACK [ ]

b. TYPE OF WELL: OIL WELL [ ] GAS WELL [ ] OTHER Wildcat SINGLE ZONE [X] MULTIPLE ZONE [ ]

2. NAME OF OPERATOR: PAN AMERICAN PETROLEUM CORPORATION

3. ADDRESS OF OPERATOR: P. O. Box 480, Farmington, New Mexico

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.*)
At surface: 1940' FSL and 900' FEL
At proposed prod. zone: Same

5. LEASE DESIGNATION AND SERIAL NO.: 14-20-0603-8429

6. IF INDIAN, ALLOTTEE OR TRIBE NAME: Navajo

7. UNIT AGREEMENT NAME:

8. FARM OR LEASE NAME: Navajo Tribal "V"

9. WELL NO.: 1

10. FIELD AND POOL, OR WILDCAT: Wildcat

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA: SE/4 Section 16, T-38-N, R-29-E

12. COUNTY OR PARISH: Apache 13. STATE: Arizona

14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE*: 50 miles northeast of Shiprock, New Mexico

15. DISTANCE FROM PROPOSED* LOCATION TO NEAREST PROPERTY OR LEASE LINE, FT. (Also to nearest drlg. unit line, if any): 3350'

16. NO. OF ACRES IN LEASE: 2560

17. NO. OF ACRES ASSIGNED TO THIS WELL: 80

18. DISTANCE FROM PROPOSED LOCATION* TO NEAREST WELL, DRILLING, COMPLETED, OR APPLIED FOR, ON THIS LEASE, FT.: No other wells on lease

19. PROPOSED DEPTH: 4500'

20. ROTARY OR CABLE TOOLS: Rotary

21. ELEVATIONS (Show whether DF, RT, GR, etc.): Report Later

22. APPROX. DATE WORK WILL START*: May 31, 1967

23. PROPOSED CASING AND CEMENTING PROGRAM

SIZE OF HOLE	SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	QUANTITY OF CEMENT
20"	16"	42.75#	40	40 sacks
13"	10-3/4"	40.50#	900	500 sacks
8-3/4"	7"	23 & 20#	4500	500 sacks

COPIES OF LOCATION PLAT ATTACHED.

RECEIVED
JUN 9 1967
STATE O & G
CONS. COMM.

RECEIVED
MAY 29 1967
U. S. GEOLOGICAL SURVEY
FARMINGTON, N. M.

IN ABOVE SPACE DESCRIBE PROPOSED PROGRAM: If proposal is to deepen or plug back, give data on present productive zone and proposed new productive zone. If proposal is to drill or deepen directionally, give pertinent data on subsurface locations and measured and true vertical depths. Give blowout preventer program, if any.

24.

SIGNED L. O. Speer, Jr. TITLE Area Superintendent DATE May 26, 1967

(This space for Federal or State office use)

PERMIT NO. 415 APPROVAL DATE

APPROVED BY TITLE DATE

CONDITIONS OF APPROVAL, IF ANY:

APPROVED
JUN 2 1967
ACTING DISTRICT ENGINEER

*See Instructions On Reverse Side

APPLICATION FOR PERMIT TO DRILL, DEEPEN OR PLUG BACK

APPLICATION TO DRILL [X] DEEPEN [ ] PLUG BACK [ ]

NAME OF COMPANY OR OPERATOR: PAN AMERICAN PETROLEUM CORPORATION

DATE: May 26, 1967

Address: P. O. Box 480, City: Farmington State: New Mexico 87401

DESCRIPTION OF WELL AND LEASE

Name of lease	Well number	Elevation (ground)
Navajo Tribal "V" 14-20-0603-8429	1	Report Later

Well location (give footage from section lines): 1940' FSL and 900' FEL

Section—township—range or block & survey: Section 16, T-38-N, R-29-E

Field & reservoir (If wildcat, so state): Wildcat

County: Apache

Distance; in miles, and direction from nearest town or post office: 50 miles northwest of Shiprock, New Mexico

Nearest distance from proposed location to property or lease line: 3350 feet

Distance from proposed location to nearest drilling, completed or applied—for well on the same lease: No other wells on lease feet

Proposed depth:	Rotary or cable tools	Approx. date work will start
4500'	Rotary	May 31, 1967

Number of acres in lease: 2560

Number of wells on lease, including this well, completed in or drilling to this reservoir: None

If lease, purchased with one or more wells drilled, from whom purchased: Name: Not Applicable Address:

Status of bond: Statewide

Remarks: (If this is an application to deepen or plug back, briefly describe work to be done, giving present producing zone and expected new producing zone)

$25.00 Permit Fee paid to Arizona Oil & Gas Conservation Commission on May 26, 1967 on Draft No. 24635.

* Fill in Proposed Casing Program on other side

CERTIFICATE: I, the undersigned, under the penalty of perjury, state that I am the Area Superintendent of the Pan American Petroleum Corporation (company), and that I am authorized by said company to make this report; and that this report was prepared under my supervision and direction and that the facts stated therein are true, correct and complete to the best of my knowledge.

May 26, 1967
Date

L. O. Speer, Jr.
Signature

Permit Number: 115
Approval Date: 5-29-67
Approved By: John Bannister

Notice: Before sending in this form be sure that you have given all information requested. Much unnecessary correspondence will thus be avoided.

See Instruction on Reverse Side of Form

STATE OF ARIZONA OIL & GAS CONSERVATION COMMISSION

Application to Drill, Deepen or Plug Back

Form No. P-1 File two copies

Effective Feb. 2, 1962

RECEIVED MAY 29 1967 STATE O & G CONS. COMM.

OK apl

13

API 02-001-20039

INSTRUCTIONS

READ CAREFULLY AND COMPLY FULLY

For the purpose of this determination attach hereto a neat, accurate plat, map or sketch of this lease, section, block or lot locating thereon the proposed site for this location. Plat shall be drawn to a scale which will permit the facile observation of all pertinent data. Show distances of the proposed well from the two nearest lease and section lines, and from the nearest wells on the same lease completed in or drilling to the same reservoir. If the location requested is not in conformance with the applicable well-spacing rules, show all off-setting wells to the proposed well, and the names and addresses of all adjoining lease or property owners.

In event plat is filed for the purpose of designating the drilling and producing unit, or proration unit, on which the proposed well is to be drilled, the boundaries of such unit shall be shown, also the bounderies of all other such units attributed to other wells on the same lease completed in or drilling to the same reservoir. The acreage contained within each unit shall also be shown.

Do not confuse survey lines with lease lines. The sketch or plat should show your entire lease if possible. If it is not practical to show the entire lease and the plat shows only a section, block or lot out of your lease, you should clearly show that same is only a part of the lease.

Designate scale to which plat or sketch is drawn. Also designate northerly direction on the sketch or plat.

PROPOSED CASING PROGRAM

Size of Casing	Weight	Grade & Type	Top	Bottom	Cementing Depths	Sacks Cement
16"	42.75#	Armco SW	Surface	40'	Circulate	40
10-3/4"	40.50#	J-55	Surface	900'	Circulate	500
7"	23 & 20#	J-55	Surface	4500'	4500-2000'	500

Form No. P-1

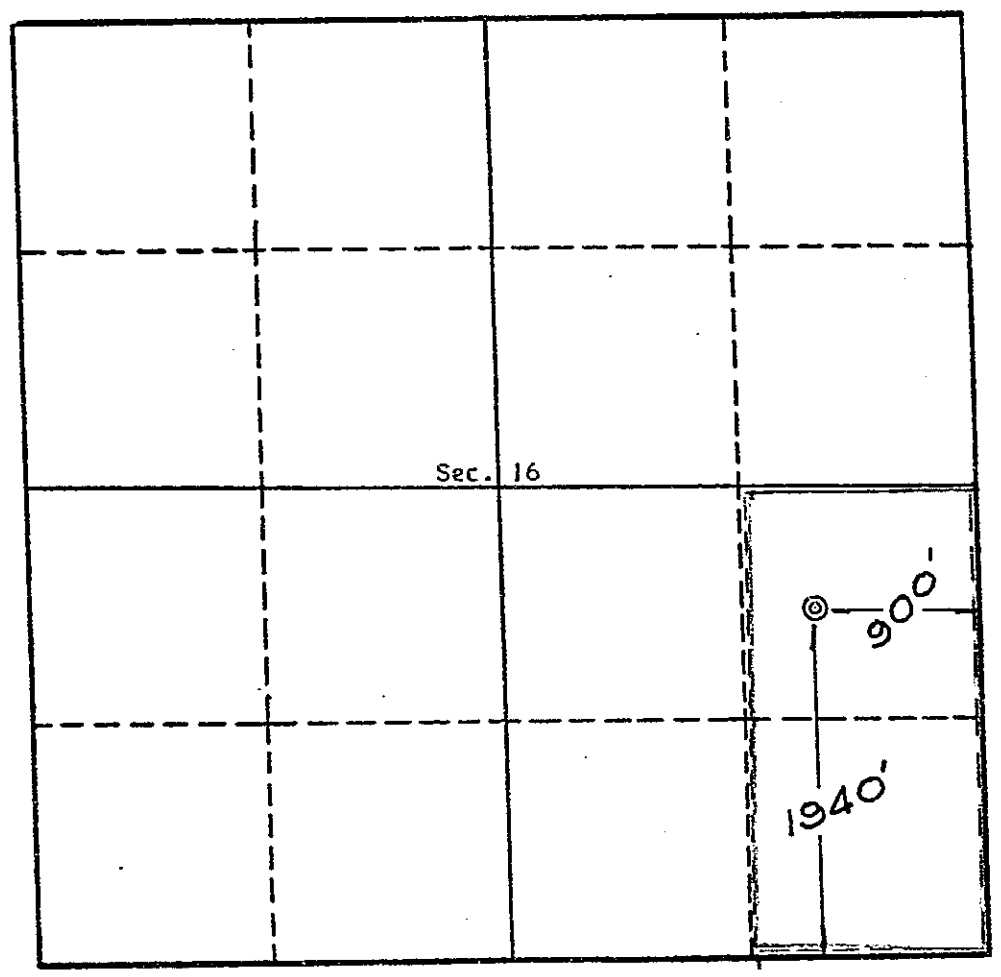
Company PAN AMERICAN PETROLEUM CORPORATION

Well Name & No. Navajo Tribal "V" No. 1

Location 1940 feet from the South line and 900 feet from the East line.

Sec. 16, T. 38 N., R. 29 E., G. & S. R. M., County Apache, Arizona

Ground Elevation Report Later



Scale, 1 inch = 1,000 feet

Surveyed May 25, 19 67

This is to certify that the above plat was prepared from field notes of actual surveys made by me or under my supervision and that the same are true and correct to the best of my knowledge and belief.

REGISTERED LAND SURVEYOR
CERTIFICATE EXPIRES
ERNEST V. ECHOHAWK
DEC. 31, 19 67
ARIZONA, U.S.A.

Ernest V. Echohawk
Registered Land Surveyor
Arizona Registration No. 2311

415

PERMIT TO DRILL

This constitutes the permission and authority from the

OIL AND GAS CONSERVATION COMMISSION,
STATE OF ARIZONA,

To: PAN AMERICAN PETROLEUM CORPORATION
(OPERATOR)

to drill a well to be known as

Pan American Petroleum #1 Navajo V
(WELL NAME)

located 1940' FSL and 900' FEL (NE SE)

Section 16 Township 38N Range 29E, Apache County, Arizona.

The E/2 SE/4 of said
Section, Township and Range is dedicated to this well.

Said well is to be drilled substantially as outlined in the attached Application and must be drilled in full compliance with all applicable laws, statutes, rules and regulations of the State of Arizona.

Issued this 29th day of May, 19 67.

OIL AND GAS CONSERVATION COMMISSION

By John Bannister
EXECUTIVE SECRETARY

PRIOR TO BEING ALLOWED TO PRODUCE THIS WELL YOU MUST BE IN FULL COMPLIANCE WITH RULE 105, SECTION A [illegible] (3) (a) (b), WITH RESPECT TO THE PRODUCT TO BE PRODUCED.

PERMIT No. 415

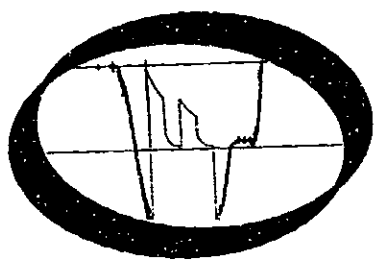
RECEIPT NO. 9507

State of Arizona
Oil & Gas Conservation Commission
Permit to Drill

FORM NO. 27

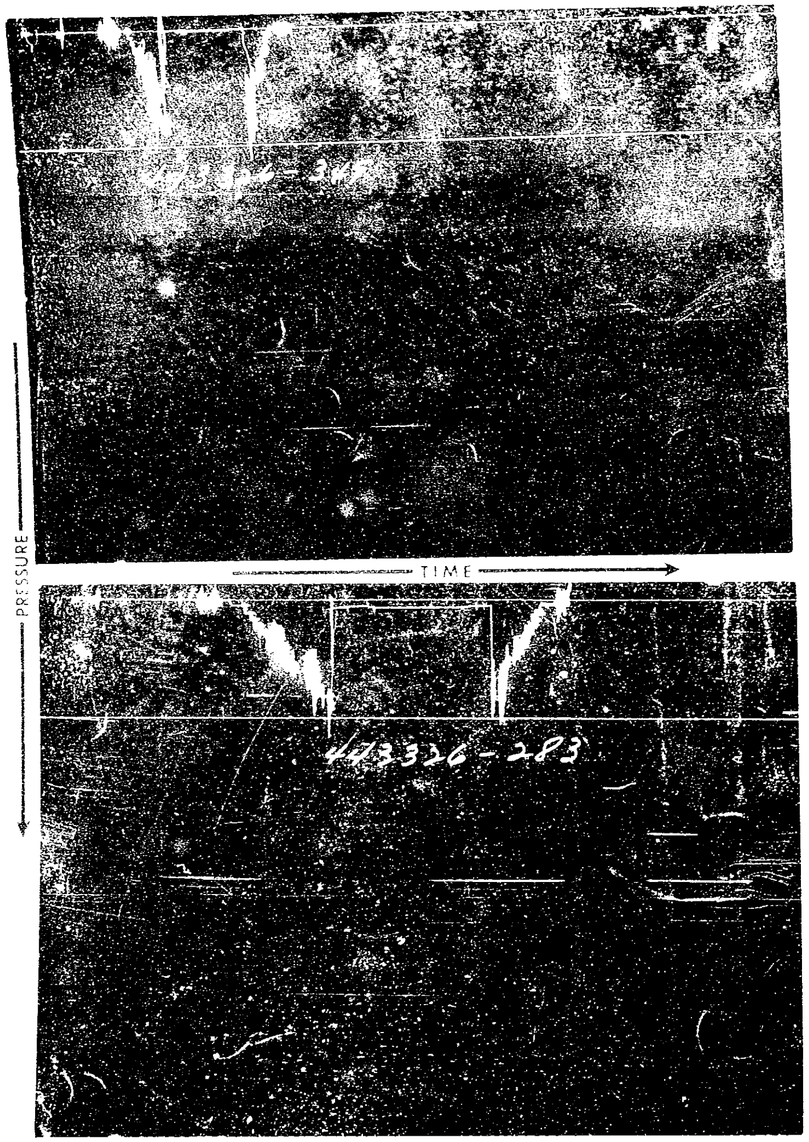
API 02-001-20039

Formation Testing Service Report



Permit 415

HALLIBURTON COMPANY
DUNCAN, OKLAHOMA



Each Horizontal Line Equal to 1000 p.s.i.

FORM OF TEST DATA

	1st Min.		2nd Min.	
Flow Time	5		90	
Closed In Press. Time	30		30	
Pressure Readings	Field		Office Corrected	
Depth Top Gauge	830 Ft.		no	Blanked Off
BT. P.R.D. No.	349		24	Hour Clock
Initial Hydro Mud Pressure	353		384	
Initial Closed in Pres.	7		0	
Initial Flow Pres.	7	1	10	
	7	2	5	
Final Flow Pres.	7	1	7	
	7	2	5	
Final Closed in Pres.	7		0	
Final Hydro Mud Pressure	340		381	
Depth Cen. Gauge	Ft.			Blanked Off
BT. P.R.D. No.				Hour Clock
Initial Hydro Mud Pres.	T			
Initial Closed in Pres.	I G			
Initial Flow Pres.	H	1		
		2	T	
Final Flow Pres.		1		
		2	H	
Final Closed in Pres.			O L	
Final Hydro Mud Pres.			E	
Depth Bot. Gauge	873 Ft.		yes	Blanked Off
BT. P.R.D. No.	283		12	Hour Clock
Initial Hydro Mud Pres.	418		408	
Initial Closed in Pres.	26		24	
Initial Flow Pres.	26	1	34	
	26	2	24	
Final Flow Pres.	26	1	32	
	26	2	29	
Final Closed in Pres.	26		22	
Final Hydro Mud Pres.	392		404	

Date	6-15-67	Ticket Number	443326
Kind of Job	OPEN HOLE	Halliburton District	FARMINGTON
Tester	E.J. SMITH	Witness	DON BARNES
Drilling Contractor	LOFFLAND BROTHERS LC		
Elevation	5700'	Top Packer	839'
Total Depth	877'	Bottom Packer	--
Interval Tested	839' - 877'	Formation Tested	--
Casing or Hole Size	8 3/4"	Casing Perfs. Top / Bot.	
Surface Choke	½"	Bottom Choke	3/4"
Size & Kind Drill Pipe	5" H-90 / 4" FH DC	Drill Collars Above Tester (I.D. - LENGTH)	2½" - 497'
Mud Weight	8.9	Mud Viscosity	60
Temperature	70 °F Est. / 90 °F Actual	Anchor Size & Length	ID 2 ½" / OD 5 3/4" X 38'
Depths Mea. From	Kelly Bushing	Depth of Tester Valve	820 Ft.
Cushion (Type / Amount)	Ft.	Depth Back Pres. Valve	Ft.
Recovered	Feet of		
	TIGHT HOLE		
Recovered	Feet of		
Recovered	Feet of		
Recovered	Feet of		
Oil A.P.I. Gravity	-	Water Spec. Gravity	-
Gas Gravity	-	Surface Pressure	- psi
Tool Opened	2:55 A.M. P.M.	Tool Closed	5:30 A.M. P.M.
Remarks	TIGHT HOLE ---NO INFORMATION RELEASED.		

Legal Location Sec. - Twp. - Rng.: 16 38N 29E

Lease Name: NAVAJO "V"

Well No.: #415

Test No.:

Field Area: WILDCAT

County: APACHE

State: ARIZONA

Lease Owner/Company Name: PAN AMERICAN PETROLEUM CORPORATION

Owner's District: FARMINGTON

Mea. From Tester Valve

FORMATION TEST DATA

5

Each Horizontal Line Equal to 1000 p.s.i.

oleum #1 Navajo V
29E Apache County #415

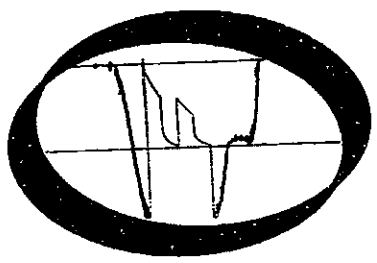
Each Horizontal Line Equal to 1000 p.s.i.

NOMENCLATURE

b	= Approximate Radius of Investigation	Feet
b_1	= Approximate Radius of Investigation (Net Pay Zone h_1)	Feet
D.R.	= Damage Ratio	—
El	= Elevation	Feet
GD	= B.T. Gauge Depth (From Surface Reference)	Feet
h	= Interval Tested	Feet
h_1	= Net Pay Thickness	Feet
K	= Permeability	md
K_1	= Permeability (From Net Pay Zone h_1)	md
m	= Slope Extrapolated Pressure Plot (Psi^2/cycle Gas)	psi/cycle
OF_1	= Maximum Indicated Flow Rate	MCF/D
OF_2	= Minimum Indicated Flow Rate	MCF/D
OF_3	= Theoretical Open Flow Potential with/Damage Removed Max.	MCF/D
OF_4	= Theoretical Open Flow Potential with/Damage Removed Min.	MCF/D
P_s	= Extrapolated Static Pressure	Psig.
P_F	= Final Flow Pressure	Psig.
P_{ot}	= Potentiometric Surface (Fresh Water*)	Feet
Q	= Average Adjusted Production Rate During Test	bbls/day
Q_t	= Theoretical Production w/Damage Removed	bbls/day
Q_g	= Measured Gas Production Rate	MCF/D
R	= Corrected Recovery	bbls
r_w	= Radius of Well Bore	Feet
t	= Flow Time	Minutes
t_o	= Total Flow Time	Minutes
T	= Temperature Rankine	°R
Z	= Compressibility Factor	—
μ	= Viscosity Gas or Liquid	CP
Log	= Common Log	

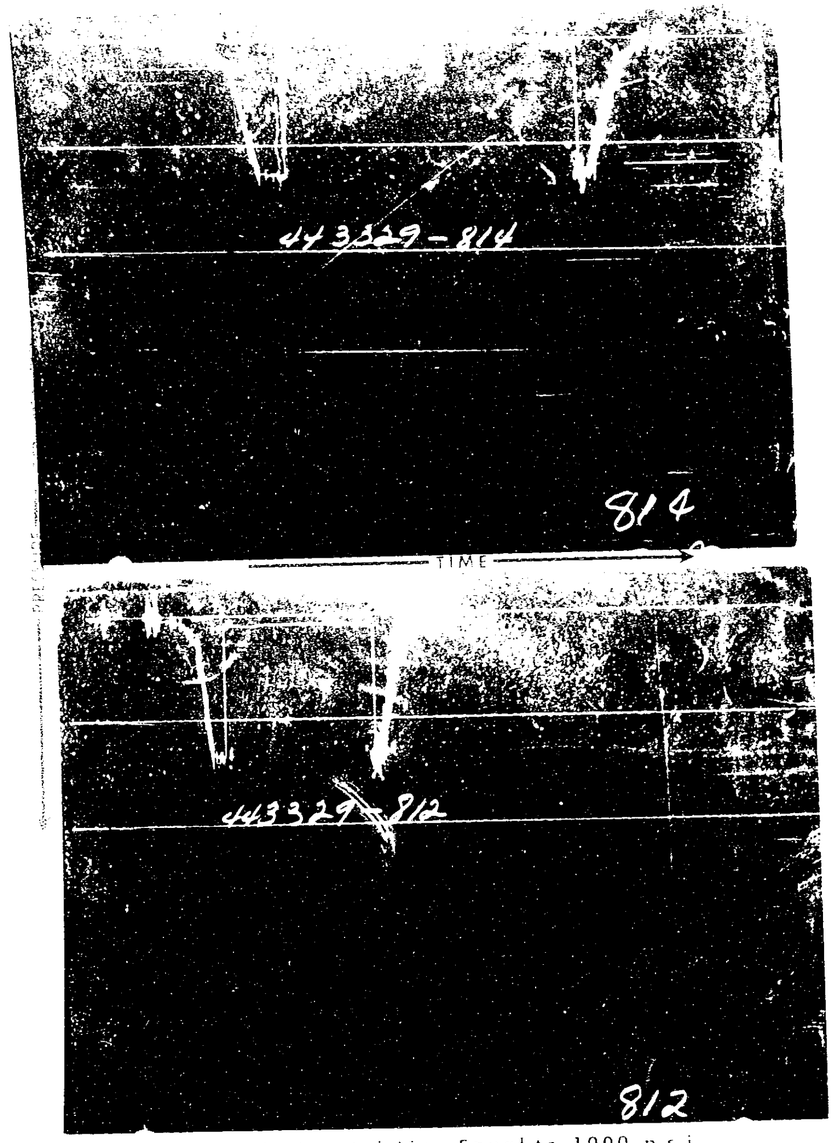
* Potentiometric Surface Reference to Rotary Table When Elevation Not Given, Fresh Water Corrected to 100° F.

Formation Testing Service Report



HALLIBURTON COMPANY
DUNCAN, OKLAHOMA

415



Each Horizontal Line Equal to 1000 p.s.i.

TIGHT HOLE

Flow Time	1st Min. 5	2nd Min. 180	Date 6-23-67	Ticket Number 443329	
Closed In Press. Time	1st Min. 60	2nd Min. 60	Kind of Job OPEN HOLE	Halliburton District FARMINGTON	
Pressure Readings	Field	Office Corrected	Tester E.J. SMITH	Witness DON BARNES	
Depth Top Gauge	2730 Ft.	Blanked Off no	Drilling Contractor LOFFLAND BROTHERS		TC
BT. P.R.D. No.	814	Hour 12 Clock	Elevation -	Top Packer -	
Initial Hydro Mud Pressure	1261	1284	Total Depth 2843'	Bottom Packer 2704'	
Initial Closed in Pres.	42	42	Interval Tested 2704' - 2843'	Formation Tested --	
Initial Flow Pres.	28 1	21	Casing or Hole Size 8 3/4"	Casing Perfs. Top / Bot.	
	28 2	19			
Final Flow Pres.	28 1	21	Surface Choke ¼"	Bottom Choke 3/4"	
	42 2	19			
Final Closed in Pres.	56	54	Size & Kind Drill Pipe 4" FH 5" H-90 DC	Drill Collars Above Tester I.D. - LENGTH 2½" - 406'	
Final Hydro Mud Pressure	1233	1278	Mud Weight 9.3	Mud Viscosity 58	
Depth Cen. Gauge	Ft.	Blanked Off	Temperature 90 °F Est. / 95 °F Actual	Anchor Size & Length ID 2½" OD 5 3/4" X 139	
BT. P.R.D. No.		Hour Clock	Depths Mea. From Kelly Bushing	Depth of Tester Valve 2720 Ft.	
Initial Hydro Mud Pres.			Cushion TYPE - AMOUNT - Ft.	Depth Back Pres. Valve - Ft.	
Initial Closed in Pres.			Recovered 15 Feet of gas cut mud.		
Initial Flow Pres.	1		Recovered Feet of		
	2		TIGHT HOLE		
Final Flow Pres.	1		Recovered Feet of		
	2				
Final Closed in Pres.			Recovered Feet of		
Final Hydro Mud Pres.			Oil A.P.I. Gravity -	Water Spec. Gravity -	
Depth Bot. Gauge	2841 Ft.	Blanked yes Off	Gas Gravity -	Surface Pressure - psi	
BT. P.R.D. No.	812	Hour 24 Clock	Tool Opened 7:15 A.M. P.M.	Tool Closed 12:20 P.M. A.M. P.M.	
Initial Hydro Mud Pres.	1365	1357	TIGHT HOLE		
Initial Closed in Pres.	115	106	Remarks Tool opened with very weak blow stopping in 3 minutes of 5 minute initial flow. Took a 60 min-		
Initial Flow Pres.	86 1	101			
	87 2	94	ute initial closed in pressure. Reopened tool for		
Final Flow Pres.	86 1	94			
	87 2	88	a 180 minute final flow with weak blow stopping in		
Final Closed in Pres.	143	119	1 ½ minutes. Closed tool for a 60 minute final		
Final Hydro Mud Pres.	1309	1350	closed in pressure.		

FORMATION TEST DATA

Each Horizontal Line Equal to 1000 p.s.i.

Legal Location Sec. - Twp. - Rng. 16 - 38N - 29E | Test No. 2 | Ticket No. 443329 | Date 6-23-67

Lease Name NAVAJO TRIBAL "Y" | Well No. 1

Lease Owner/Company Name PAN AMERICAN PETROLEUM CORPORATION

Owner's Mailing Address FARMINGTON

Field Area WILDCAT | County APACHE | State ARIZONA

Meas. From Tester Valve

TIGHT HOLE

Pan American Petroleum #1 Navajo Y
16-38N-29E Apache County, Ariz.

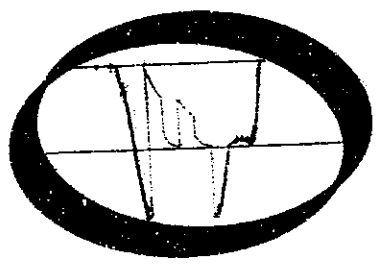
NOMENCLATURE

b	= Approximate Radius of Investigation	Feet
b_1	= Approximate Radius of Investigation (Net Pay Zone h_1)	Feet
D.R.	= Damage Ratio	—
El	= Elevation	Feet
GD	= B.T. Gauge Depth (From Surface Reference)	Feet
h	= Interval Tested	Feet
h_1	= Net Pay Thickness	md
K	= Permeability	md
K_1	= Permeability (From Net Pay Zone h_1)	md
m	= Slope Extrapolated Pressure Plot (Psi^2/cycle Gas)	psi/cycle
OF_1	= Maximum Indicated Flow Rate	MCF/D
OF_2	= Minimum Indicated Flow Rate	MCF/D
OF_3	= Theoretical Open Flow Potential with/Damage Removed Max.	MCF/D
OF_4	= Theoretical Open Flow Potential with/Damage Removed Min.	MCF/D
P_s	= Extrapolated Static Pressure	Psig.
P_F	= Final Flow Pressure	Psig.
P_{ot}	= Potentiometric Surface (Fresh Water*)	Feet
Q	= Average Adjusted Production Rate During Test	bbls/day
Q_1	= Theoretical Production w/Damage Removed	bbls/day
Q_g	= Measured Gas Production Rate	MCF/D
R	= Corrected Recovery	bbls
r_w	= Radius of Well Bore	Feet
t	= Flow Time	Minutes
t_o	= Total Flow Time	Minutes
T	= Temperature Rankine	°R
Z	= Compressibility Factor	—
μ	= Viscosity Gas or Liquid	CP
Log	= Common Log	

* Potentiometric Surface Reference to Rotary Table When Elevation Not Given, Fresh Water Corrected to 100° F.

Each Horizontal Line Equal to 1000 p.s.i.

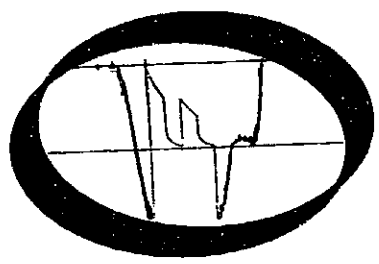
Formation Testing Service Report



415

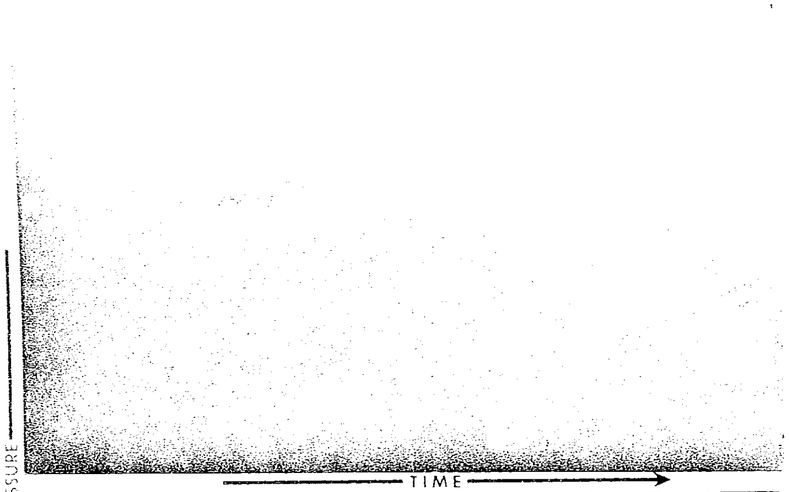
HALLIBURTON COMPANY
DUNCAN, OKLAHOMA

Formation Testing Service Report



415

HALLIBURTON COMPANY
DUNCAN, OKLAHOMA



Each Horizontal Line Equal to 1000 p.s.i.

		Min.	2nd	Min.	Date	Ticket Number	
	For	Min.	2nd	Min.	Kind of Job	Halliburton District	
	Field		Office Corrected		Tester	Witness	
				Blanked Off	Drilling Contractor		
				Hour Clock	Elevation	Top Packer	
					Total Depth	Bottom Packer	
					Interval Tested	Formation Tested	
					Casing or Hole Size	Casing Perf. Top / Bot.	
					Surface Choke	Bottom Choke	
					Size & Kind Drill Pipe	Drill Collars Recov. Tester	
					Mud Weight	Mud Viscosity	
	Depth Cen. Gauge	Ft.		Blanked Off	Temperature	F. Est. / F. Actual	Anchor Size / O.D. / Length
	61 F.R.D. No.			Hour Clock	Depths Meas. From		Depth of Tester Valve
	Initial Hydro Mud Pres.				Cushion	Ft.	Depth Back Pres. Valve
	Initial Closed in Pres.				Recovered	Feet of	
	Initial Flow Pres.	1			Recovered	Feet of	
	Final Flow Pres.	1 / 2			Recovered	Feet of	
	Final Closed in Pres.				Recovered	Feet of	
	Final Hydro Mud Pres.				Oil A.P.I. Gravity	Water Spec. Gravity	
	Depth Bot. Gauge	Ft.		Blanked Off	Gas Gravity	Surface Pressure	
	61 F.R.D. No.			Hour Clock	Tool Opened	A.M. / P.M. Tool Closed	
	Initial Hydro Mud Pres.				Remarks		
	Initial Closed in Pres.						
	Initial Flow Pres.	1					
	Final Flow Pres.	1 / 2					
	Final Closed in Pres.						
	Final Hydro Mud Pres.						

FORMATION TEST DATA

Gauge No. 786			Depth 3428'			Clock 12 hour		Ticket No. 443282		
	First Flow Period		Initial Closed In Pressure			Second Flow Period		Final Closed In Pressure		
	Time Defl. .000"	PSIG Temp. Corr.	Time Defl. .000"	Log $\frac{t+\theta}{\theta}$	PSIG Temp. Corr.	Time Defl. .000"	PSIG Temp. Corr.	Time Defl. .000"	Log $\frac{t+\theta}{\theta}$	PSIG Temp. Corr.
P_0	.000	31	.000		16	.000	22	.000		18
P_1	.042	16	.0324		57	.1373	18	.285		159
P_2			.0648		91	.2746	18			
P_3			.0972		122	.4119	18			
P_4			.1296		149	.5492	18			
P_5			.1620		174	.6865	18			
P_6			.1944		197	.8240	18			
P_7			.2268		219					
P_8			.2592		232					
P_9			.2920		758					
P_{10}										

Gauge No. 730			Depth 3632'			Clock 24 hour				
P_0	.000	116	.000		156	.000	112	.000		106
P_1	.037	156	.037		230	.0667	108	.157		246
P_2			.073		286	.1334	107			
P_3			.107		333*	.2001	107			
P_4						.2668	107			
P_5						.3335	107			
P_6						.400	106			
P_7										
P_8										
P_9										
P_{10}										
Reading Interval			5			20				Minutes

REMARKS: *Read in stair steps.

SPECIAL PRESSURE DATA

Each Horizontal Line Equal to 1000 p.s.i.

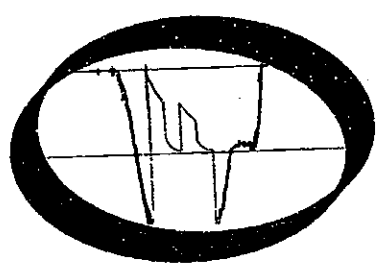
NOMENCLATURE

b	= Approximate Radius of Investigation	Feet
b_1	= Approximate Radius of Investigation (Net Pay Zone h_1)	Feet
D.R.	= Damage Ratio	—
El	= Elevation	Feet
GD	= B.T. Gauge Depth (From Surface Reference)	Feet
h	= Interval Tested	Feet
h_1	= Net Pay Thickness	Feet
K	= Permeability	md
K_1	= Permeability (From Net Pay Zone h_1)	md
m	= Slope Extrapolated Pressure Plot (Psi^2/cycle Gas)	psi/cycle
OF_1	= Maximum Indicated Flow Rate	MCF/D
OF_2	= Minimum Indicated Flow Rate	MCF/D
OF_3	= Theoretical Open Flow Potential with/Damage Removed Max.	MCF/D
OF_4	= Theoretical Open Flow Potential with/Damage Removed Min.	MCF/D
P_s	= Extrapolated Static Pressure	Psig.
P_f	= Final Flow Pressure	Psig.
P_{et}	= Potentiometric Surface (Fresh Water*)	Feet
Q	= Average Adjusted Production Rate During Test	bbls/day
Q_1	= Theoretical Production w/Damage Removed	bbls/day
Q_g	= Measured Gas Production Rate	MCF/D
R	= Corrected Recovery	bbls
r_w	= Radius of Well Bore	Feet
t	= Flow Time	Minutes
t_e	= Total Flow Time	Minutes
T	= Temperature Rankine	°R
Z	= Compressibility Factor	—
μ	= Viscosity Gas or Liquid	CP
Log	= Common Log	

* Potentiometric Surface Reference to Rotary Table When Elevation Not Given, Fresh Water Corrected to 100° F.

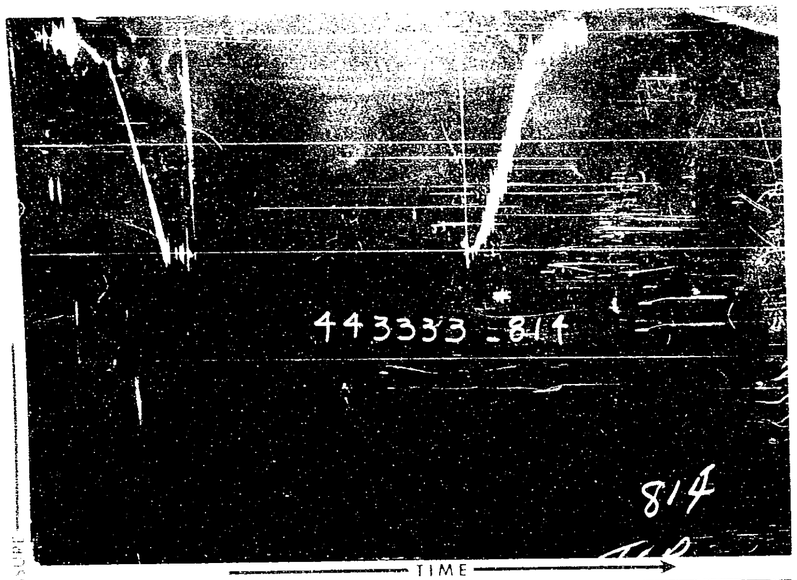
Each Horizontal Line Equal to 1000 p.s.i.

Formation Testing Service Report

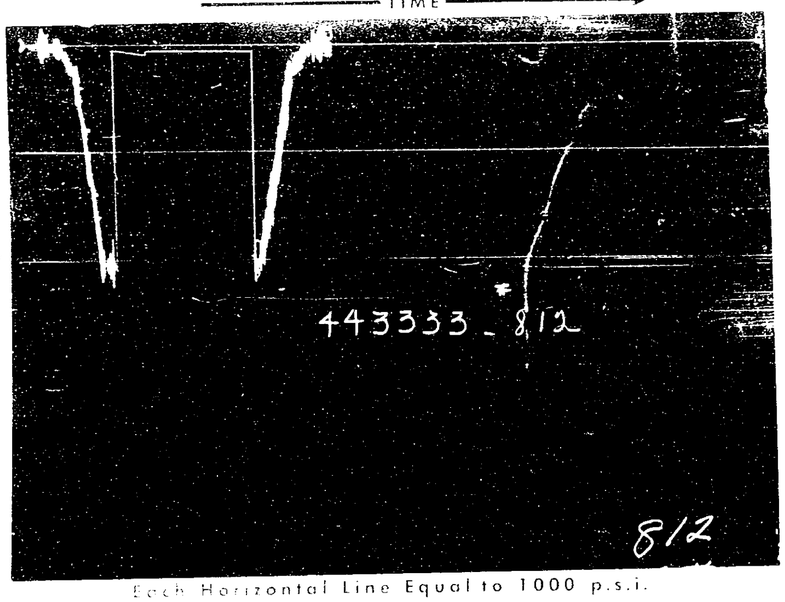


HALLIBURTON COMPANY
DUNCAN, OKLAHOMA

415



TIME



Each Horizontal Line Equal to 1000 p.s.i.

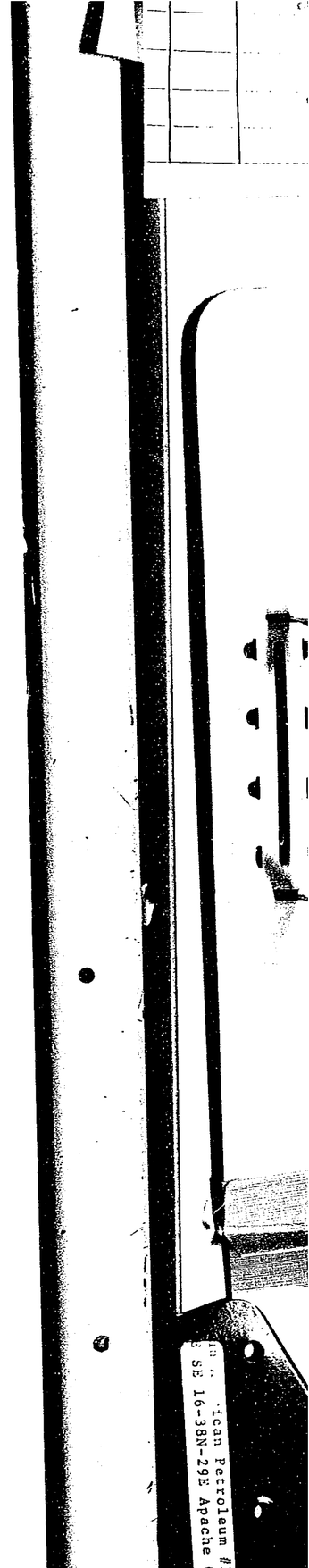
FORMATION TEST DA

Each Horizontal Line Equal to 1000 p.s.i.

NOMENCLATURE

b	= Approximate Radius of Investigation	Feet
b_1	= Approximate Radius of Investigation (Net Pay Zone h_1)	Feet
D.R.	= Damage Ratio	——
El	= Elevation	Feet
GD	= B.T. Gauge Depth (From Surface Reference)	Feet
h	= Interval Tested	Feet
h_1	= Net Pay Thickness	Feet
K	= Permeability	md
K_1	= Permeability (From Net Pay Zone h_1)	md
m	= Slope Extrapolated Pressure Plot (Psi^2/cycle Gas)	psi/cycle
OF_1	= Maximum Indicated Flow Rate	MCF/D
OF_2	= Minimum Indicated Flow Rate	MCF/D
OF_3	= Theoretical Open Flow Potential with/Damage Removed Max.	MCF/D
OF_4	= Theoretical Open Flow Potential with/Damage Removed Min.	MCF/D
P_s	= Extrapolated Static Pressure	Psig.
P_F	= Final Flow Pressure	Psig.
P_{ot}	= Potentiometric Surface (Fresh Water*)	Feet
Q	= Average Adjusted Production Rate During Test	bbls/day
Q_1	= Theoretical Production w/Damage Removed	bbls/day
Q_g	= Measured Gas Production Rate	MCF/D
R	= Corrected Recovery	bbls
r_w	= Radius of Well Bore	Feet
t	= Flow Time	Minutes
t_o	= Total Flow Time	Minutes
T	= Temperature Rankine	°R
Z	= Compressibility Factor	——
μ	= Viscosity Gas or Liquid	CP
Log	= Common Log	

* Potentiometric Surface Reference to Rotary Table When Elevation Not Given, Fresh Water Corrected to 100° F.



FORM 470 2-57

PAN AMERICAN PETROLEUM CORPORATION

501 Airport Drive, Farmington, New Mexico
July 17, 1967

File: E-150-400.1

Subject: Navajo Tribal "V" No. 1
Apache County, Arizona Wildcat
Permit No. 415

Arizona Oil & Gas Conservation Commission
Room 202, 1624 West Adams
Phoenix, Arizona

Gentlemen:

With reference to our letter of July 5, 1967, File: E-136-400.1, please attach this complete Navajo Tribal "V" Well No. 1 Drill Stem Test No. 1 to the folder for the original tight hole Drill Stem Test No. 1. Also, you will find the complete Drill Stem Tests Nos. 2 and 3 attached. Test No. 4 will be sent to you when it is received. Rec'd

Yours very truly,

PAN AMERICAN PETROLEUM CORPORATION

L. O. Speer, Jr.
Area Superintendent

JDP:en

Attach.

RECEIVED
JUL 18 1967
STATE O & G
CONS. COMM.

415

FORM 470 2-57

PAN AMERICAN PETROLEUM CORPORATION

501 Airport Drive, Farmington, New Mexico
July 5, 1967

File: E-136-400.1

Subject: Navajo Tribal "V" No. 1
Apache County, Arizona Wildcat
Permit No. 415

Mr. John Bannister
Executive Secretary
Arizona Oil and Gas Conservation Commission
Room 202, 1624 West Adams
Phoenix, Arizona 85007

Dear Sir:

This has reference to your letter of July 3, 1967, pointing our that the drill stem test report on the subject well did not include all of the pertinent information regarding the drill stem test. At the time distribution of this report was made, we were not aware the service company had not completed all of the data on the form but simply made distribution of the report as it was received. We are obtaining additional data sheets from the service company which will be completed with all of the data included and a copy will be furnished you so that it may be inserted in the folder.

Also, you will note from the attached copy of the U. S. Geological Survey Form 9-331, showing the progress of the well during the month of June, that full information on both DST Nos. 1 and 2 was made. This report was prepared and mailed in a timely manner but unfortunately, as you will note from the attached envelope, your copy was missent to an obsolete address and which was then returned to us today. We hope that this report will suffice your files for DST data pending our completion of a revised data sheet form which will then be sent to you in the near future. We have received the service company report on DST No. 2 and note that there are some blanks on this form which are also not completed. We will not make distribution of this report until the form is fully completed with all pertinent information.

Pursuant to your rules and regulations, please keep information regarding this well in your confidential file for the six-month period that it may be so retained. Please be assured that it is not our intent to withhold any information from the Commission, and we will make a more determined effort in the future to see to it that information is furnished both promptly and completely.

RECEIVED JUL 5 1967 STATE O & G CONS. COMM.

Yours very truly,

PAN AMERICAN PETROLEUM CORPORATION

L. O. Speer, Jr.
Area Superintendent

415

Attachment

CONFIDENTIAL

Release Date 1-11-68

July 3, 1967

Pan American Petroleum Corporation
501 Airport Drive
Farmington, New Mexico 87401

Attention: Mr. L.O. Speer, Jr., Area Superintendent

Re: Pan American Petroleum #1 Navajo V
NE SE 16-38N-29E, Apache County, Arizona
Permit 415

Gentlemen:

Your report of Formation Test Data on captioned well has been received. It is noticed that much of the pertinent information is withheld and instead entered in those spaces is the notation, "Tight Hole."

This Commission of course is entitled to all information developed by an operator in his operations and it is requested that this information be furnished to this Commission.

If an operator declares in writing to the Commission that a well is being drilled tight, the Commission will retain all information, including samples but excepting location site, in a confidential status for six months from date of completion. Our file does not contain such a request from you.

Please be assured it is our desire to cooperate with you in every manner we may.

Very truly yours,

John Bannister
Executive Secretary
mr

CONSIGNEE MEMO

04321842

NAVAJO FREIGHT LINES, Inc.

MANAGING GENERAL EXPRESSWAYS, Inc.

"COAST-TO-COAST OVER THE NAVAJO TRAIL"

6

PRO NUMBER	DATE INITIALS	O C	D C	T C	TRLR NO.	WEIGHT	REVENUE	PAYABLE	RECEIVABLE	COMM. CODE
04321842	071367WN	4	54	1	9046	29	275			

SHIPPER

PAN AMER PET
FARMINGTON, NM

CONSIGNEE

ARIZONA I OIL GAS CONSER COMM
1624 W ADAMS RM 202
PHOENIX, ARIZ

ROUTING POINTS OF TRANSFER, FREIGHT BILL DATES AND NUMBERS

WHIT 2 264854 7/12/67

DEST. STATION: PHO

GBL OR SHIPPER NO.

QTY.	PKG.	DESCRIPTION & MARKS	WEIGHT	RATE	CHARGES
1		CTN ROCK CORE SAMPLE	29	M	450 PPD

RECEIVED
JUL 19 1967
STATE O & G
CONS. COMM.

I. C. C. REGULATIONS REQUIRE THAT ALL FREIGHT BILLS BE PAID WITHIN SEVEN DAYS.

June 20, 1967

Pan American Petroleum Corporation
P.O. Box 480
Farmington, New Mexico 87401

Attention: Mr. L.O. Speer, Jr., Area Superintendent

Re: Pan American Petroleum #1 Navajo V
NE SE 16-38N-29E, Apache County, Arizona
Permit 415

Gentlemen:

It is our understanding that captioned well has been spudded and is drilling below 1,200 feet.

As we have indicated to you, this Commission should be kept currently informed as to the operations on any well drilling within the State of Arizona. For your convenience, in reporting wells drilling on the Navajo Reservation, we will accept copies of your reports to US. Geological Survey. There is one exception, that the Well Completion Report be on this Commission's form. We invite your attention to the enclosed information sheet. Copy of this sheet was forwarded with your permit.

You are requested to file with this Commission, at your earliest convenience, the reports to bring this well to its current status. Should you have any questions, or if we may be of assistance to you, please let us know.

Very truly yours,

John Bannister
Executive Secretary
mr
enc